1863
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THESAURUS CAPENSIS:

OR,

ILLUSTRATIONS OF THE SOUTH AFRICAN FLORA,

BEING

FIGURES AND BRIEF DESCRIPTIONS OF SOUTH AFRICAN PLANTS,

SELECTED FROM THE

Dublin University Herbarium.

BY

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1863.

MISSOURI BOTANICAL

TO

WILLIAM GUYBON ATHERSTONE, ESQ., M.D.,

OF GRAHAMSTOWN,

WHO,

DURING A LONG PROFESSIONAL CAREER IN SOUTH AFRICA,

HAS

DILIGENTLY AND SUCCESSFULLY CULTIVATED

THE NATURAL HISTORY OF THE COLONY,

This Second Volume

OF

THE "THESAURUS CAPENSIS"

IS INSCRIBED,

BY

THE AUTHOR.

CONSPECTUS TABULARUM:

OR,

DESCRIPTION AND EXPLANATION OF THE FIGURES.

101. HUTTONÆA PULCHRA, Harv. (*Orchideæ.*)

GEN. CHAR.—*Sepala* ovata, integerrima, plana, basi cum unguibus petalorum in perianthium monophyllum quinquelobum connata. *Petala* longe unguiculata, apice cucullata marginibus fimbriatis. *Labellum* liberum, planum, fimbriatum. *Anthera* resupinata, loculis basi valde divergentibus. *Glandulæ* nudæ. *Stigma* lineare, transversum.—*Herba caulescens, caule folioso, foliis cordato-ovatis v. subrotundis basi vaginantibus, spica multiflora, floribus albis.*

H. pulchra, *Harv. in Herb. T. C. D.*

HAB.—In moist spots, under trees, on the Katberg, 4000 feet; March, 1862; *Mrs. Henry Hutton.* Orange Free State, *T. Cooper*, 1091. (Herb. T. C. D.)

DESCR.—Terrestrial. *Stem* 12–15 inches high, sheathed at base, and bearing two leaves. *Leaves* shortly sheathing at base, petiolate, either ovate or cordate and acute, or the lowest one suborbicular and very obtuse, 2–3 inches long, $1\frac{1}{2}$–$2\frac{1}{2}$ inches wide, dark green, thin and membranous, with one principal mid-nerve and several arching lateral nerves. *Spike* many-flowered, 3–8 inches long, lax. *Bracts* lanceolate, erect, scarcely equalling the ovary. *Flowers* 4–5 lines long. *Posterior* sepal oblong-ovate, acute, on a long claw; *lateral* sepals much larger, sessile, broadly ovate, subfalcate, acute, somewhat keeled, recurved at point. *Petals* on long slender claws, having a hood or bonnet-shaped, hollow, fringed limb, directed forwards. *Labellum* membranous, flat, subrotund, fringed all round.

A most lovely Orchid, with snow-white, sweetly-scented flowers of singular shape, and glossy, dark green, expanded leaves. The genus HUTTONÆA is dedicated to the discoverer, Mrs. Henry Hutton, who, jointly with her husband, Henry Hutton, Esq., J. P., has contributed largely to our knowledge of the botany (and especially of the Orchids) of the Eastern Frontier.

Fig. 1, spike of flowers; 2, base of stem and leaves; both of the *natural* size. Fig. 3, front view of a flower; 4, the connate sepals and petals removed; 5, the labellum, with short column and anther, front view; 6, back view of anther; 7, pollen mass; all *enlarged.*

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102. HALLACKIA FIMBRIATA, Harv. (*Orchideæ.*)

Gen. Char.—*Sepala* ovata, fimbriata, plana, basi cum unguibus petalorum in perianthium monophyllum connata. *Petala* unguiculata, apice cucullata marginibus fimbriatis. *Labellum* liberum, basi concavum fimbriatum. *Anthera* supina, loculis parallelis basi approximatis. *Glandulæ . . . . Stigma . . . . Herba caulescens, caule folioso, foliis cordatis basi vaginantibus, spica multiflora, floribus albis.*

H. fimbriata, *Harv. in Herb. T. C. D.*

Hab.—From the Natal country, *R. Hallack.* (Herb. T. C. D.)

Descr.—Terrestrial. *Stem* 1–1½ f. high, sheathing at base, bearing two leaves. *Leaves* on longish sheaths, cordate, acute or acuminate, 2–3 inches long, 1½–2½ inches wide, membranous, with a midrib and several arching lateral nerves connected by irregularly inosculating veinlets. *Spike* many-flowered, 3–6 inches long, lax. *Bracts* lanceolate, acuminate, about equalling the ovary. *Flowers* 4 lines long. *Posterior* sepal on a longish claw, ovate, lacerato-fimbriate, rising between the petals; lateral, tapering at base into short claws, ovate-oblong, obtuse, lacerato-fimbriate. *Petals* on long, slender claws, having a concave fringed limb, directed forwards. *Labellum* hollow at base, expanded, flabelliform, fringed on the rounded portion. *Stigma* and *glands* not observed, owing to the decayed state of the flowers.

This curious Orchid has so many points in common with *Huttonæa pulchra*, figured in the preceding plate, that I much wished to place it in the same genus. The form of the anther, however (if correctly given), compels me to form a genus for it; and this I gladly dedicate to Mr. Hallack, of Port Elizabeth, to whom I am indebted for specimens of this and of several other rare frontier plants.

Fig. 1, spike of flowers; 2, base of stem and leaves; both of the natural size. Fig. 3, front view of a flower; 4, the connate sepals and petals removed; 5, labellum and anther; all *enlarged.*

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103. BROWNLEEA CŒRULEA, Harv. (*Orchideæ.*)

B. cœrulea: foliis caulinis 3–4 membranaceis oblongo-v. ovato-lanceolatis acutis, spica pluriflora, bracteis lanceolatis flores subequantibus, sepalis oblongo-lanceolatis dimidiatis porrectis, galea acuminata infundibuliformi in calcar longissimum subpendulum producta, labello minimo lineari emarginato.—*Lindl. in Hook., Lond. Journ. Bot.* i. p. 16. *B. macroceras, Sond. in Linn.* 19, p. 106.

Hab.—Among trees, near King Williamstown, *Rev. J. Brownlee*, 1841. Katriversberg, *Ecklon & Zeyher, H. Hutton.* Also at Howison's Poort, *H. Hutton.* Near Hangman's Bush Hill, above Frankfort, British Caffraria, *W. S. M. D'Urban.* (Herb. T. C. D.)

DESCR.—Terrestrial. *Stem* 1-1½ f. high, sheathed at base with remains of old leaves, bearing 2, 3, or rarely 4 leaves. *Leaves* on long sheaths, 5–6 inches long, 1½–2½ inches wide, of thin substance, semi-pellucid and veiny when dry, oblongo-lanceolate, acute or acuminate. *Spike* few or many flowered, 1–6 inches long, dense. *Bracts* sometimes only equalling the ovary, sometimes as long as the flowers, lanceolate, very acute. *Flowers* sky-blue or lilac, nearly two inches long, including the spur. *Petals* oblong, bluntly unidentate toward the base on the upper side, adhering to the sides of the funnel-shaped, very long spurred, acuminate back sepal, and thus forming a galea. *Lateral* sepals oblong, subacute, unequal-sided. *Labellum* very minute, erect, linear.

The genus *Brownleea* was founded, in 1841, on the present plant and a small-flowered species (*B. parviflora*), both discovered by the Rev. J. Brownlee, for many years a missionary in Caffraria, and an observing naturalist. It is related to *Disa*, but distinguished by the adhesion of the petals to the back sepal, and of the labellum to the column.

Fig. 1, spike and upper leaves; 2, lower leaf and base of stem; *natural* size. Fig. 3, back sepal (*galea*); 4, petal; 5, lateral sepal; 6, front view, and 7, side view of column and labellum; 8, the labellum removed; 9, pollen mass, caudicle and gland; all *enlarged*.

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104. BROWNLEEA RECURVATA, Sond. (*Orchideæ.*)

B. recurvata: foliis caulinis binis rigidiusculis striatis lineari-lanceolatis acuminatis, spica pluriflora, bracteis ovato-lanceolatis acuminatis flores subequantibus, sepalis oblongo-lanceolatis acutis, galea acuminata apice recurva breviter infundibuliformi in calcar deorsum arcuatum ovario brevius producta, labello minimo subulato.—*Sond. in Linn.* 19, p. 107.

HAB.—At the Eland's River, Uit., *Ecklon & Zeyher*. On the Katberg, 3400 feet, *H. Hutton*, March. (Herb. T. C. D.)

DESCR.—Terrestrial. *Stem* 1–1½ f. high, sheathing. *Leaves* on longish sheaths, the lower one 3–5 inches long, 4–5 lines wide, the upper shorter and narrower, both rib-striate and closely many-nerved, rigid when dry. *Spike* 8–12 flowered. *Bracts* generally longer than the ovary, wider than in *B. cærulea*. *Flowers* 7–9 lines long, lilac-colour. *Petals* somewhat falcate, unequal sided. *Spur* of the galea cylindrical, ½ line diameter, inflexed at end, and blunt; apex of galea attenuated and recurved. *Lateral* sepals more acute and lanceolate than in *B. cærulea*.

A well-marked species, with flowers smaller than in *B. cærulea*, but much larger and less numerous than in *B. parviflora*, whose flowers are white. Mr. Hutton says that he thinks he also once found it "about 1854, on a high mountain, six miles from Grahamstown."

Fig. 1, spike and upper leaf; 2, lower leaf and base of stem; *natural* size. Fig. 3, back sepal (*galea*); 4, petal; 5, lateral sepal; 6, front view, and 7, side view of column and labellum; 8, the labellum removed.

105. A. TRYPHIA ORTHOCERAS, Harv. (*Orchideæ.*)

T. orthoceras: sepalis petalisque lanceolatis acuminatis, labelli glaberrimi laciniâ mediâ cuneatâ apice obtuse tridentatâ, calcare subulato stricto deflexo ovario breviori.

Hab.—Howison's Poort, and on the Katberg, *H. Hutton.* (Herb. T. C. D.)

Descr.—*Tubers* ovoid. *Leaves* two, subradical, unequal, broadly ovate, acute or acuminate, 5–7 nerved, with laxly netted veinlets, thin and membranous, glabrous. *Scape* naked, pubescent, 6–8 inches high, ending in a many-flowered secund spike. *Bracts* subulate, scarcely as long as the ovary. *Sepals* lanceolate, acuminate, the medial wider. *Petals* as long as the sepals, lanceolate, acuminate. *Labellum* with a straight, awl-shaped, deflexed spur, 3-lobed, the lateral lobes subulate, subacute, the medial cuneate, 3-toothed, the teeth short, deltoid.

Well distinguished from the following by its differently shaped sepals, petals, and labellum.

Fig. 1, a plant, the *natural* size. Fig. 2, sepals; 3, a petal; 4, labellum; *enlarged.*

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105. B. TRYPHIA SECUNDA, Lindl. (*Orchideæ.*)

T. secunda: sepalis ovatis lateralibus obliquis, petalis linearibus obtusis, labelli medio pubescentis laciniâ mediâ cuneatâ triloba lobulis linearibus obtusis, calcare uncinato ovario breviori.—*Lindl. Orch.* p. 333. *Sond. in Linn.* 19, p. 82. *Orchis secunda, Thunb. Fl. Cap.* p. 31.

Hab.—Cape, *Thunberg.* Near Algoa Bay, *Forbes, Mr. Hewitson, Mrs. Holland.* Zwartkops River, *Ecklon & Zeyher.* Various places in Albany, Somerset, and Beaufort, and on the Winterberg, *Mrs. F. W. Barber* (256). Grahamstown, *Genl. Bolton.* Albany District, *T. Williamson, H. Hutton.* (Herb. T. C. D.)

Descr.—*Tubers* and *leaves* as in *T. orthoceras.* *Stem* either glabrous or pubescent. *Bracts* ovate or ovato-lanceolate, not half as long as the ovary. *Back* sepal broadly ovate, concave; lateral ones flat, suboblique, acute. *Petals* linear, very obtuse. *Labellum* with a strongly inrolled spur; the lateral lobes linear or spathulate, obtuse, medial deeply 3-lobed, the lobes linear or spathulate.

Fig. 1, a plant, the *natural* size. Fig, 2, sepals; 3, a petal; 4, labellum; 5, column and anther; *enlarged.*

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106. DISPERIS CARDIOPHORA, Harv. (*Orchideæ.*)

D. cardiophora: caule basi monophyllo, folio cordato-reniformi amplexicauli recurvo, spica multiflora subsecunda, bracteis folio conformibus, sepalis lateralibus patentibus unguiculatis saccatis concavis acutis, labello lineari acuto, appendice breviter lanceolato acuto glabro.—*Sanders*, No. 488.

Hab.—Dargle Farm, near Natal, *Mr. Fannin.* Field's Hill, Natal, 1200 feet, November, *J. Sanderson.* (Herb. T. C. D.)

Descr.—Terrestrial. *Stem* 8–12 inches high, bearing a single leaf near the base. *Leaf* $\frac{3}{4}$–1 inch long, wider than its length, closely clasping the stem, roundish-cordate or reniform, spreading. *Spike* 10–15-flowered or more, 4–8 inches long. *Bracts* resembling the leaves, horizontally patent, scarcely equalling the ovary, much shorter than the capsule. *Back* sepal strongly keeled, very convex, forming with the petals a helmet-shaped, narrow-mouthed galea. *Lateral* sepals horizontally spreading, ovato-lanceolate, concave, saccate toward the base, shortly clawed. *Labellum* reflected on the column, narrow-linear, acute; with a lanceolate appendix in front.

For a knowledge of this very remarkable species of *Disperis*, I am originally indebted to Mr. Hallack, who procured it from Mr. Fannin. More recently I have received specimens from Mr. Sanderson, who describes the flowers as "lilac, grey and green."

Fig. 1, a plant (rather a small one), the *natural* size. Fig. 2, a bract, laid open; 3, front view of a flower; 4, side view of the galea; 5, a lateral sepal; 6, back view of column and anther; 7, front view of column; 8, labellum; *enlarged*.

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107. ANGRÆCUM ARCUATUM, Lindl. (*Orchideæ.*)

A. arcuatum: caulescens, foliis distichis lineari-oblongis obtusissimis emarginatis, racemis multifloris foliis brevioribus, bracteis subrotundo-ovatis membranaceis concavis, sepalis petalisque linearibus acuminatissimis patentissimis, labello conformi carinato revoluto, calcare arcuato tereti ovario duplo longiore.—*Lindl. in Hook. Comp. Bot. Mag.* 2, p. 204. *Sond. in Linn.* 19, p. 75. *A. Capensis? Lindl. Sp.* 248.

Hab.—On trees, in the forests of Uitenhage and Albany, *Ecklon & Zeyher! Drege!* Near Port Elizabeth, *Mrs. Holland!* Port Natal, *T. Williamson! Gueinzius!* (Herb. T. C. D.)

Descr.—An epiphyte. *Stem* 3–6 inches or more in length, 3–4 lines diameter, closely covered with clasping distichous leaves. *Leaves* 3–5 inches long, $\frac{3}{4}$–1 inch wide, very rigid, thickish, striate when dry, obliquely emarginate. *Racemes* pendulous, many flowered. *Bracts* broadly ovate, loose, dry and membranous. *Ovary* subsessile, tapering at base. *Flowers* cream-coloured, the younger greenish-yellow. *Sepals* and *petals* narrow, tapering to a sharp recurved point. *Labellum* linear-lanceolate, acute, with a long, arched, funnel-shaped spur.

Common in the Eastern districts. Notwithstanding the discrepancy of *Thunberg's* description, I think that his *Limodorum longicornu* must be meant for this plant. If not, what can it be? No recent collector has found any thing more like it.

Fig. 1, stem, leaves, and flowers, *natural* size. Fig. 2, a back sepal; 3, the labellum; *enlarged*.

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108. ANGRÆCUM BICAUDATUM, Lindl. (*Orchideæ.*)

A. bicaudatum: caulescens, foliis distichis lineari-oblongis oblique bilobis, spicis horizontalibus multifloris foliis vix brevioribus, sepalis

ovatis obtusiusculis, petalis angustioribus, labello tripartito plano, laciniis lateralibus intermediæ ovatæ equalibus linearibus apice dichotomo-multifidis, calcare recto cylindraceo ovario triplo longiore.—*Lindl. in Hook. Comp. Bot. Mag.* 2, p. 205. *Sond. in Linn.* 19, p. 75.

Hab.—On trees, in the forests of Uitenhage and Albany, frequent, *Eck. & Zey! Mrs. F. W. Barber! Mrs. Holland! R. Hallack!* (Herb. T. C. D.)

Descr.—An epiphyte, sometimes attached to calcareous rocks. *Stem* 6–8 inches long, 3–4 lines diam., closely covered with distichous leaves. *Leaves* 3–5 inches long, $\frac{1}{2}$–$\frac{3}{4}$ inch wide, rigid, infolded at base, shortly, unequally, and bluntly 2-lobed. *Spikes* spreading nearly at right angles to the stem, 3–4 inches long, many flowered. *Bracts* very small, narrow, deflexed, membranous. *Ovary* sessile. *Flowers* pale orange-colour. *Sepals* broadly ovate, much larger than the narrow, ovato-lanceolate, subacuminate *petals*. *Labellum* oblong, 3-lobed; the *medial* lobe short, deltoid, the *lateral* linear, twice or thrice forked, the lobules sharp, minute. *Spur* straight, cylindrical, pendulous, much longer than the ovary.

This curious little species is distinctly marked by its *two-tailed* labellum. An allied species (*A. tridentatum, H.*), has a 3-toothed labellum, obliquely 2-toothed petals, and much narrower leaves. It comes from Natal, and was collected by *Mr. Sanderson* (No. 562).

Fig. 1, a plant, the ***natural*** size. Fig. 2, the back sepal; 3, a lateral sepal; 4, petals; 5, labellum and column, the petals and sepals removed; *enlarged.*

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109. LIPARIS BOWKERI, Harv. (*Orchideæ.*)

L. Bowkeri: folio (unico?) basi vaginante obtuso oblongo-ovato apice acuto tenuiter membranaceo 5-costato, scapo pluri-bracteato paucifloro, bracteis membranaceis amplexicaulibus ovatis acuminatis, floribus 2–3–4 pedicellatis, sepalo postico petalis conformi lineari-subulato longissimo acuto, lateralibus multo latioribus brevioribusque falcatis, labello oblongo-ovato undulato venoso.

Hab.—Shaded crevices of rocks, near Fort Bowker, Caffraria, blossoming in summer, *Henry Bowker.* (Herb. T. C. D.)

Descr.—*Root?* *Leaf* (one only?) involute and somewhat cucullate at base, broadly oblong-ovate, acute, thinly membranous, 5–7 nerved, subpellucid when dry, 4–5 inches long, 3–3$\frac{1}{2}$ wide, pale green. *Scape* bearing 5–6, subdistant, ovate-acuminate, clasping, membranous, empty bracts below the similarly shaped floral bracts. *Flowers* 3–4, pedicellate, probably white? *Back* sepal (resembling the petals) from a broad, deltoid base, narrow-linear, or subulate, acute, spreading, arched, 6–7 lines long, $\frac{1}{2}$ line wide: *Lateral* sepals, in front of the labellum, broadly falcate, subhorizontal or deflexed, incurved, subacute, several-veined. *Petals* similar to the back sepal, spreading. *Labellum* with a concave, suberect claw, clasping the base of the column, and an ovate, spreading or pendulous, undulate, veiny limb. *Column* semiterete at base, some-

what two-winged beyond the middle, the wings small, decurrent. *Anther* forming a lid, articulated with the summit of the column, deciduous. *Pollen* (*?*).

Of this very interesting orchid, I have as yet seen but two specimens, and have failed to observe the nature of the pollen in either. If it be of 4 waxy masses, as is probable, the plant is a *Liparis;* and makes the third of that genus now known in S. Africa. The other two (*L. Capensis* and *L. Pappei*) are found in moist spots near Wynberg and on the Cape Flats. I have never seen either; but a tracing from a drawing of *L. Pappei,* in Hb. Lindley, has three broad, horizontal leaves, and a dense, many-flowered spike of small flowers.

Fig. 1, leaf and flowering scape; the *natural* size; 2, a flower; 3, back sepal; 4, lateral sepal; 5, the column and (empty) anther; *magnified.*

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110. MABA NATALENSIS, Harv. (*Ebenaceæ.*)

M. Natalensis: ramulis flexuosis puberulis, foliis oblongis ovatisve obtusis glaberrimis supra nitentibus subtus pallidioribus, floribus femineis solitariis subsessilibus, calyce cupuliformi glabro integerrimo, staminibus abortivis 6–7, ovario glabro!

Hab.—Near D'Urban, Port Natal, 1861, *Gerrard & M'Ken!* No. 675. (Herb. T. C. D.)

Descr.—A much-branched, twiggy shrub, with divaricating, flexuous branches and twigs; the older with pale ashen back, all the younger ones minutely pubescent. *Leaves* on very short, puberulous petioles, $\frac{3}{4}$–1 inch long, 6–7 lines wide, ovate, oblong, or elliptical, obtuse, dark green above, pale beneath, quite glabrous, netted veined beneath. *Male* flowers not seen. *Female* solitary, subsessile, axillary. *Calyx* $1\frac{1}{2}$ lines long, cup-shaped, quite truncate, glabrous. *Corolla* densely silvery-pubescent externally, bearing 6–7 abortive stamens. *Filaments* short, subulate; anthers erect (without pollen). *Ovary* quite glabrous, tapering to the apex; stigma slightly 3-lobed. *Fruit* not seen.

With the habit of *M. buxifolia* this has glabrous, perfectly truncate, and quite entire calyces, a glabrous ovary, and abortive stamens in the female flowers. The male plant is required to complete its history.

Fig. 1, a flowering branch, the *natural* size. Fig. 2, a female flower; 3, corolla, laid open, showing the abortive stamens; 4, ovary; 5, section of the same; *enlarged.*

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111. PERIGLOSSUM M'KENII, Harv. (*Asclepiadeæ.*)

P. M'Kenii: caule erecto simplici basi glabro apice bifariam villoso, foliis linearibus elongatis patulis acutis margine revolutis glaberrimis, junioribus ad nervum subtus villosulis, pedunculis extra-axillaribus folio brevioribus multifloris, floribus sub-capitatis brevissime pedicellatis, corolla calycis foliolis lanceolatis duplo longiore, coronæ staminеæ foliolis spathulatis obtusis uninerviis medio auriculâ bidentatâ introrsum auctis, membranâ antherarum triangulâ peltatâ.

HAB.—Near D'Urban, *Gerrard & M'Ken*, 664. (Herb. T. C. D.)

DESCR.—Stem 2 feet high, simple, glabrous below, having two opposite lines of pubescence in the upper part. *Leaves* 2–3 inches apart, 4–5 inches long, linear or lanceolate-linear, acute, quite sessile, glabrous, except the nerves of the young leaves on the under side, the margins strongly reflexed. *Peduncles* about half as long as the leaves, bearing a dense fascicle of nearly sessile flowers. *Corolla* 3 lines long, its lobes lanceolate, acute. *Calyx* about half as long as the corolla. *Corona staminea* of 5 oblong spathulate leaves, tapering at base, nerved, and having in the middle of the expanded portion and on the nerve a short, horizontal, 2-toothed prominence or auricle. *Anthers* tipped with a large triangular, peltate scale. *Pollinia* on very long, slender, club-shaped caudicles; the gland minute. *Stigma* depressed.

Apparently distinct by its corona from *P. angustifolium;* and by its large corolla and corona from *P. macrum*, with neither of which species, however, have I had an opportunity of comparing it.

Fig. 1, upper part of a flowering stem, the *natural* size. Fig. 2, a flower; 3, corolla laid open; 4, corona-staminea, laid open; 5, one of its leaflets; 6, a stamen, seen from without; 7, peltate scale from the same; 8, pollen-masses; all *enlarged.*

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112. XYSMALOBIUM PEDUNCULATUM, Harv. (*Asclepiadeæ.*)

X. pedunculatum: multicaulis, caulibus simplicibus ascendentibus bifariam pilosulis, foliis petiolatis ovatis acutis utrinque sparsim hispidis, pedunculo terminali elongato multifloro, umbellis globosis, pedicellis floribus duplo longioribus pubescentibus bracteolis minimis paucis basi stipatis, calyce piloso, corollæ glabræ laciniis ovatis patentibus, cor. stam. foliolis ovatis obtusis carnosis patentibus.

HAB.—Common in the valleys of the Winterberg, *Mrs. F. W. Barber*, autumn. (Herb. T. C. D.)

DESCR.—*Root* fleshy? *Stems* numerous (30 or more) from the same crown, 6–12 inches long, simple, ascending, distantly leafy. *Leaves* 4–5 pair, 2–3 inches apart, on short petioles, 1–1½ inches long, ¾–1 inch wide, ovate or slightly cordate, acute, penninerved, thinly sprinkled on each side with short bristles. *Peduncle* continuous with the stem, 4–5 inches long, bearing a dense umbel of 40–50 flowers or more, bifariously pubescent (as the stem), and also sprinkled with bristles. *Flowers* greenish-brown, 3–4 lines across. *Calyx* lobes lanceolate, pubescent. *Corolla* rotate, glabrous, with ovate lobes, slightly reflected at the margin. *Corona* leaflets spreading, fleshy, ovate, obtuse.

Of this I have only seen the specimen sent by Mrs. Barber, who finds it "common;" yet it seems to have escaped the notice of other collectors. In its inflorescence it differs remarkably from other *Xysmalobia*, but has the simple corona-leaflets which alone separate this (not very natural) genus from *Gomphocarpus*.

Fig, 1, a flowering stem, the *natural* size. Fig. 2, front view of a flower; 3, back view; 4, a leaflet of the corona-staminea; 5, pollen-masses; *enlarged.*

113. LOPHOSTEPHUS MOLLIS, Harv. (*Asclepiadeæ.*)

Gen. Char.—*Calyx* 5-partitus. *Corolla* sub-campanulata, patula, 5-loba, lobis ovoideis carnosulis æstivatione strictis. *Corona-staminea* profunde 5-partita, laciniis bifidis intus lacinula longissima auctis. *Antheræ* muticæ. *Massæ* pollinis ovoideæ erectæ juxta basim affixæ, hinc margine pellucido. *Stigma* pentagonum, muticum. *Folliculi?*— *Herba ramosa, decumbens, foliis cordatis, umbellis axillaribus paucifloris.*

L. mollis, *Harv. in Herb. T.C.D., Cynoctonum molle, E. Mey.! Com. Drege,* p. 216, *Dne. in DC. Prodr.* 8, p. 530.

Hab.—Grassy places in the Van Staadensberg and Zuureberg, *Drege!* Near Grahamstown, *Genl. Bolton!* Katberg, and other places on the Eastern frontier, *H. Hutton!* Zuureberg, on high hills, amongst rocks, *Mrs. F. W. Barber!* summer. (Herb. T. C. D.)

Descr.—*Roots* numerous, filiform, somewhat fleshy, clasping the rocks. *Stems* trailing, alternately branched, 1–2 feet long, bifariously pubescent and sparsely hispid. *Leaves* on pubescent petioles, cordate, obtuse or acute, about an inch long, nearly as wide, pubescent above, hispidulous beneath. *Peduncles* extra axillary, shorter than the leaves. *Umbel* laxly several flowered. *Flowers* 2 lines across, with a white tube and rich brown limb; the lobes thickened, opaque and velvety in the centre, pale at the margin. *Corona-staminea* 5-partite, its lobes ovate, deeply bifid, each portion acuminate, with a recurved point, and bearing in front a very long, tongue-shaped process. *Pollinia* oval, erect, basi-fixed, with an oblique, hyaline spot near the apex. *Follicles* not seen.

This pretty Asclepiad was placed in *Cynoctonum* by E. Meyer; but as I find the pollinia are erect, besides other differential characters, I am compelled to remove it to a separate genus. It seems to me to be nearly allied to *Brachystelma.*

Fig. 1, a plant; the *natural* size. Fig. 2. a flower, front view; 3, corolla laid open; 4, calyx; 5, one division of the corona; 6, a stamen; 7, pollen-masses (*erect*); 8, stigma; *enlarged.*

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114. DECACERAS HUTTONI, Harv. (*Asclepiadeæ.*)

Gen. Char.—*Calyx* 5-partitus. *Corolla* subcampanulata, patula, profunde 5-loba. *Corona-staminea* duplex; exterior cupuliformis ore 10-dentato dentibus per paria (staminibus alternantia) approximatis; interior 5-phylla, foliolis subulatis staminibus oppositis. *Antheræ* apice membranâ destitutæ. *Massæ* pollinis erectæ, incurvæ, ovoideæ, margine interiori pellucidæ. *Stigma* muticum. *Folliculi* . . . *Herbula, foliis linearibus, floribus axillaribus.*

D. Huttoni, *Harv. in Herb. T. C. D.*

Hab.—Botha's Hill, near Grahamstown, Nov., 1861, *H. Hutton.* (Herb. T. C. D.)

Descr.—*Root* not seen (probably tuberous). *Stem* 1–2 inches high, oppositely branched, scaberulous; branches widely spreading. *Leaves*

linear, obtuse, ½ inch long, not a line wide, sessile, scaberulous, or minutely pubescent, especially on the under side. *Pedicels* extra-axillary, one-flowered, about equalling the leaves. *Flowers* yellow. *Calyx* lobes short, bluntish, scabrous. *Corolla* with a short, funnel-shaped tube, and a spreading or reflexed, 5-parted limb, glabrous within: lobes subacute. *Outer* corona cup-shaped, the margin shortly 10-toothed, the teeth in pairs alternating with the stamens; the interspaces minutely bidentulate. *Inner* corona of 5 subulate processes, one opposite each stamen. *Anthers* without membrane. *Pollen-masses* erect, incurved, basifixed, ovoid, pellucid at the extremity.

A minute plant, allied to *Brachystelma*, from which it differs in corolla and corona. I have only seen the single specimen found by Mr. Hutton, and now placed in the Dublin Univ. Herbarium.

Fig. 1, a plant; the *natural* size. Fig. 2, a flower; 3, corolla laid open; 4, corona-staminea, enclosing the gynostegium; 5, portion of the corona, opened out, seen from within, with three stamens in situ; 6, 7, front and side view of stamens; 8, pollen-masses: all *magnified*.

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115. SISYRANTHUS VIRGATUS, E. Mey. (*Asclepiadeæ.*)

S. virgatus; caule foliisque glaberrimis, umbella multiflora hispidula, bracteis calycibusque ciliatis, corollæ laciniis oblongis obtusis acutisve introrsum densissime barbatis, antherarum membranâ ciliatâ. *E. Mey. Comm. Drege*, p. 197, *Dne. in DC. Prodr.* 8, p. 649.

Var. β. **trichostomus:** caule foliisque parcissime pilosis, umbella multiflora, bracteis pedicellis calycibusque hispidis, corolla ad faucem barbata laciniis glabris, antherarum membrana ciliata.

Hab.—Grassy places, between Omsamwubo and the great cataract, *Drege?* Natal, *J. Sanderson!* 449. Lower Albany, *H. Hutton!* Kreili's country, *H. Bowker!* Var. β. Natal, *J. Sanderson!* 136. (Herb. T. C. D.)

Descr.—*Roots* of several thick, fleshy fibres. *Stem* solitary, about 2 feet high, slender, virgate, unbranched, glabrous, distantly leafy. *Leaves* linear, 4–5 inches long, 1-1½ line wide, tapering at base, acute, one-nerved, with recurved margins; axils often bearded. *Umbels* on short peduncles or subsessile, 10, 20, 30-flowered, the bracts, pedicels, and calyces more or less hispid. *Corolla* subcampanulate, its oblong or ovate-oblong lobes densely bearded within; in β. bearded only at the apex. *Anthers* tipped by a ciliate scale in both varieties.

My Var. β. is perhaps the state described by E. Meyer, whose plant I have not seen. Our analyses do not quite agree. He describes the corona as "5-parted, the segments ovate, apiculate on the inside under the apex, the apiculus wart-shaped, ciliate." I find the corona-segments shortly tricuspidate, not ciliate, and the anthers tipped by a ciliate scale. Are our plants different?

Fig. 1, a plant; *natural* size. Fig. 2, a flower: 3, two of the corolla lobes, seen from within; 4, back and front view of one of the corona-segments; 5, apex of an anther; 6, pollen-masses; all *magnified*.

116. SISYRANTHUS IMBERBIS, Harv. (*Asclepiadeæ.*)

S. imberbis: caule foliisque glaberrimis, umbella pauciflora glaberrimo, calycis laciniis acuminatis glabris, corolla ad faucem minutissime barbellata, laciniis ovatis acutis introrsum glaberrimis, antheris imberbibus.

Hab.—Valleys S. E. of Grahamstown, *H. Hutton.* Kreili's country, *H. Bowker*, No. 299! (Herb. T. C. D.)

Very similar to *S. virgatus*, but more glabrous, with fewer flowers in the umbel, acuminated calyx-lobes, nearly as long as the corolla (not represented quite correctly in the figure); a nearly glabrous corolla, and simple-topped anthers. *Calyx*-lobes much attenuated, acute.

Fig. 1, a plant; the *natural* size. Fig. 2, a flower; 3, two lobes of corolla, laid open; 4, one of the corona-segments; 5, apex of an anther: 6, pollen-masses; all *magnified.*

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117. ADENIUM NAMAQUANUM, Wyl. (*Apocyneæ.*)

A. Namaquanum: caudice sub-simplici elato crasso tuberculato, tuberculis bispinosis, foliis ad apicem caudicis approximatis obovato-oblongis obtusis basi attenuatis undulatis utrinque stellato-velutinis penninerviis costâ validâ percursis; pedicellis, calycibus, corollisque villosis, lobis corollæ oblongis obtusis. *Paters. Travels*, p. 124, *cum icone eximia.*

Hab.—Namaqualand, *Lieut. W. Paterson, A. Wyley!* (Herb. T. C. D.)

Descr.—*Stem* thick and fleshy, 5–6 feet high, tapering upwards, tuberculated throughout, each tubercle armed with a pair of long, straight, spreading spines. *Leaves* crowded at the summit, 4–5 inches long, 2–2½ inches wide, obovate-oblong, obtuse, tapering to the base, velvety on both sides, with stellate pubescence, penninerved, with a strong midrib. *Flowers* in sparingly branched cymules, from the axils of the leaves, on short, villous peduncles. *Calyx* scarcely longer than the narrow parts of the corolla-tube, 5-parted, segments oblong, acute, hairy. *Corolla* 1½ inch long, tube widening upwards, limb of 5 oblong, blunt segments. *Filaments* very short, hispid; anthers sagittate. *Stigma* conoidal. Five fleshy hypogynous glands.

This very remarkable plant, now known in the colony as the "*Elephant's Trunk*," was first observed in October, 1779, by Lieut. *W. Paterson*, the traveller, who has given an excellent figure of the apex of the trunk, bearing leaves and flowers, and makes the following brief record in his journal:—"At noon we passed the Lion's River, the banks of which are in general inhabited by those animals. The country is extremely barren, and covered with small sharp stones, which proved very injurious to our horses' hoofs. In the evening we arrived at a small, brackish fountain, where we staid all night, and the next day our way lay through a narrow path between two high mountains." "I found here the most beautiful plant I ever saw of the *Pentandria*

monogynia class. It grows to six feet high, and is full of long spines from the ground to the tops, and forms a large crown of crisped leaves, and reddish tubular flowers, tinged with yellow and green." *Paters. Trav.*, p. 124. I am indebted to Mr. A. Wyley for the leaf and flower-stem here figured, which allow us to refer to its proper place one of the most interesting of S. African plants. Two other species of *Adenium* are known; one found at Aden, in Arabia, the other in Senegal.

Fig. 1, a leaf; 2, peduncle and flowers; the *natural* size. Fig. 3, calyx; 4, corolla laid open; 5, a stamen; 6, ovary and style; 7, cross section of the ovary; *enlarged.*

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118. ROGERIA LONGIFLORA, Gay. (*Pedalineæ.*)

R. longiflora; foliis petiolatis ovatis orbiculatisve repandis trinerviis, fauce corollæ gracili conico-teretiuscula, fructu bispinoso. *DC. Prodr.* 9, p. 257, *Martynia longiflora, Meerb. Ic. t.* 7. *Willd. Sp.* 3. 265. *Martynia Capensis, Glox.*

Hab.—Cape, *Royen.* Namaqualand, *A. Wyley.* Damaraland, *Miss Elliott.* (Herb. T. C. D.)

Descr.—*Stem* robust, 1–2 feet long, diffuse, glabrous. *Leaves* on long petioles, opposite, broadly ovate or sub-rotund, 2–2½ inches long, 1½–2 inches wide, glabrous, the younger ones powdery on both sides, the older on the under side chiefly, the margin repand or angular, sometimes inclining to be lobed. *Corolla* tube nearly 3 inches long, swollen on its upper side at base, narrowest in the middle, somewhat funnel-shaped at top; the limb spreading, unequally 5-lobed, lobes obtuse. *Filaments* of the fertile stamens hispid at base; the abortive stamen a small hispid bristle.

A large, strong-growing, glabrous or glaucous annual, growing (perhaps commonly?) in the arid districts north of the Orange River; seldom collected, and wanting in many Herbaria.

Fig. 1, flowering branch; the *natural* size. Fig. 2, stamens; 3, calyx, ovary, and style; 4, a cross section of ovary; all *enlarged.*

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119. CUSCUTA CASSYTHOIDES, Nees. (*Convolvulaceæ.*)

C. cassythoides; "caule funiculari, floribus subsessilibus cymoso-spicatis, calycis globosi lobis orbiculatis concavis imbricatis verucosis corollæ tubum latum breviter cylindricum includentibus, laciniis ovatis obtusis vix basi imbricatis erectis tubum æquantibus, antheris cordato-ovatis ad faucem sessilibus, squamis tenuissimis apice truncato pauci-dentatis tubo brevioribus, stylo ovario ovato-conico [vix] æquilongo, stigmate capitato bilobo, capsula ovata, seminibus ovato-triangulatis tenuiter veruculosis." *Engelm. in Trans. Acad. of S. Louis, U. S.*, vol. i., No. 3, p. 513.—*Engelm. on Cuscuta*, p. 63.

Hab.—A parasite. Forests of Uitenhage, *Drege, Zeyher!* Hangklipp, *Mundt & Maire!* Kariega Bush, *H. Hutton!* Near Grahamstown, *Genl. Bolton!* Near Fort Bowker, *H. Bowker.* Palmiet River, Natal, *W. T. Gerrard*, 1802, June. (Herb. T. C. D.)

DESCR.—*Stems* several feet long, much thicker than packthread, shrivelling when dry. *Spicate*-cymes solitary or 2–3 together, 1–3 inches long, interruptedly many flowered. *Flowers* subsessile, solitary or in pairs. *Calyx* lobes very broad and obtuse, enclosing the tube of the corolla. *Cor.* lobes ovate, subacute. *Anthers* sessile. *Squamæ* mostly bidentate.

I copy from one of Mrs. F. W. Barber's letters the following account of this curious parasite :—" It was found near Fort Bowker, growing on a sp. of *Lycium* (I think *L. afrum*), It has long, twining, strap-shaped branches, green and round, with elongated, purple spots, and has the appearance among the branches of the *Lycium* of a hopelessly entangled fishing-line. It draws its nourishment through the lower surface of its branches, where it first clasps the branch of the *Lycium;* the corresponding surface of the parasite is not unlike the suckers on the long arms of the cuttle-fish. Its most peculiar method of propagation [or rather self-division] is by sending out long, line-like branches, which entwine themselves firmly round those of the *Lycium;* and after one has established itself on a new branch, the connecting link between it and the old stock dies away, and a new plant is established on its own account. The base of the new plant then becomes broader, and of a darker purple, and it soon sends out new branches, which go and do likewise! My brother says he looked in vain for a parent stem, or starting point."—***M. E. B. in litt.***

Fig. 1, part of a flowering branch ; 2, part of a fruiting branch ; both the ***natural*** size. Fig. 3, a flower ; 4, calyx laid open ; 5, corolla laid open ; 6, ovary ; 7, cross section of same ; 8, capsule, in the persistent calyx ; 9, embryo ; all ***magnified.***

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120. SISYNDITE SPARTEA, E. Mey. (*Zygophylleæ.*)

S. spartea, *E. Mey. in Hb. Drege, Harv. & Sond. Fl. Cap.*, vol. i., p. 384.

HAB.—Between Natvoet and the Gariep, 1000-1500 feet, *Drege.* Namaqualand, *A. Wyley*, September. (Herb. T. C. D.)

DESCR.—A glabrous half-shrub, several feet high, with rodlike branches and ramuli. *Leaves* opposite, minutely stipulate, elongate, distantly pinnate, the petiole resembling a ramulus, terete and rush-like, the leaflets subsessile, obovate, leathery, small, 6–8 lines long, 3 lines wide, in distant pairs. *Stipules* minute, ovate, obtuse, woolly within. *Peduncles* one-flowered, terminal, or in the forks of the branches, $\frac{1}{2}$–1 inch long. *Calyx* segments unequal, ovato-lanceolate and lanceolate, nearly $\frac{3}{4}$ inch long, the wider woolly within. *Petals* obovate, rather longer than the calyx, striate, thickened at base. *Hypogynous* scales ovate, unequally several-toothed, glabrous. *Ovary* 5-celled, very hairy; style single, columnar. *Stamens* 10; filaments subulate, hispidulous; anther linear-sagittate, mucronate. *Capsule* 5-lobed, clothed with long, golden-yellow hairs.

This may be called the Desert *Broom*. Its long and slender, distantly branched, rush-like stems, and the minute leaflets on swollen and elongate petioles are quite peculiar; while the large, yellow blossoms are very ornamental. The fleshy scales, surrounding the very hairy ovary, resemble little hands.

Fig. 1, flowering twig; 2, back view of a flower; *natural* size. Fig. 3, a petal; 4, stamen; 5, hypogynous scales; 6, ovary; 7, section of the carpels (the hairs removed); 8, an ovule; variously *magnified*.

121. PELARGONIUM BOWKERI, Harv. (*Geraniaceæ.*)

P. Bowkeri: radice nodoso-tuberoso, caule brevi carnoso, foliis subradicalibus petiolatis bi-tri-pinnati-partitis, pinnis in rachide valde elongato suboppositis alternisve numerosis, pinnulis linear-filiformibus integerrimis tenuiter adpressè pubescentibus; stipulis lanceolatis acuminatis, scapo foliis longiori patentim puberulo, umbella multiflora, pedicellis bracteas oblongas villosas parum superantibus, petalis profunde bilobis, lobis fimbriato-multifidis.—*Harv. in Fl. Cap. Suppl.*, vol. ii., p. 592.

Hab.—Trans-Kei country, rare, *H. Bowker.* (Herb. T. C. D.)

Descr.—*Root* formed of one, two, or several turnip-shaped tubercles, one above the other. *Stem* 1–2 inches long, simple, leafy, and floriferous at the summit, partly subterranean. *Leaves* 4–8 inches long on petioles 3–5 inches long, lanceolate-linear in outline, bi-tri-pinnatipartite; pinnæ in several pairs, or alternate, multifid; the pinnules not $\frac{1}{2}$ line wide, all parts thinly and appressedly pubescent, with whitish hairs. *Pedunc.* 12–15 inches high, many fl. *Bracts* and *calyx* villous. Upper *petals*, greenish-yellow, lower purple at base, greenish-yellow above, all bipartite and multifid, the shreds very narrow-linear.

A very handsome *Pelargonium*, with the flowers of *P. schizopetalum*, *Amatymbicum* and *Caffrum*, but differing from all these remarkably in foliage. I name it in compliment to its discoverer, to whom I am indebted for many interesting plants from the Trans-Kei territory.

Fig. 1, a peduncle in flower; 2, a leaf (the upper part cut off); 3, tuberous root and stem: all of the *natural* size.

122. MONTINIA ACRIS, Linn. f. (*Onagrarieæ.*)

M. acris, *Linn. f. Suppl.*, 427; *Thunb., Fl. Cap.*, 142; *DC. Prod.*, 3, 35; *E. & Z.!* 1757; *Harv. & Sond., Fl. Cap.* 2, p. 308; *M. caryophyllacea, Thunb., Act. Lund.* 1, 108; *Sm. Spicil., t.* 15; *Burm. Afr., t.* 90, *f.* 1–2; *M. frutescens, Gaertn.*

HAB.—Dry ground, throughout the colony, and in Namaqualand: very common. (Herb. T. C. D.)

DESCR.—A twiggy, glabrous, and glaucous bush, 1–3 feet high. Twigs compressed or angular, pale. *Leaves* varying from oblong to lanceolate and linear, quite entire, one-nerved, veinless, 1–2 inches long. *Flowers* in terminal, few-flowered cymes, diœcious; petals white, sub-rotund. *Anthers* oblong, extrorse, erect. *Pollen* 3-cornered. *Capsule* splitting through the centre, and almost always through the style, which has a greater or less tendency to be forked or bipartite; stigmas always two.

This bush is usually referred to *Onagrarieæ*. In the Fl. Capensis (vol. ii., p. 307) I have referred it to *Saxifragaceæ*, on account of the cymoid inflorescence, imbricated (not twisted) petals, imperfectly 2-celled ovary, capsule splitting through the centre, and albuminous seeds, in all which characters it agrees better with *Saxifragaceæ* than with *Onagrarieæ*. But I had omitted to examine the pollen, which is that of an Onagrad, and this character, I suppose, outweighs all the others cited.

Fig. 1, flowering twig of a *male* plant; 2, of a *female*, with partly ripe capsules; the *natural* size. Fig. 3, calyx of the male; 4, flower; 5, petal, 6, stamen, of the same; 7, a style; 8, the same at a more advanced stage; 9, a seed; 10, embryo; all *magnified*.

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123. CHORISTYLIS RHAMNOIDES, Harv. (*Saxifragaceæ*.)

Ch. rhamnoides, *Harv. in Hook, Lond. Jour.* 1, p. 19; *Fl. Cap.* 2, p. 308. *Bæobotrys rufescens, E. Mey! in Hb. Drege; Mœsa palustris, Hochst. in pl. Krauss.*

HAB.—Near the Berlin Mission Station, Katberg, *Rev. J. Brownlee! Dr. Pappe!* Between Omtendo and Omsamculo, *Drege!* Natal, *Krauss.* (Herb. *Eckl. & Zey.!* T. C. D.)

DESCR.—A shrub, 7–8–10 feet high, leafy. *Leaves* $1\frac{1}{2}$–$2\frac{1}{2}$ inches long, 1–2 inches wide, alternate, petiolate, ovate or oblong, acute, sharply serrate, strongly penninerved and paler beneath, glabrous or nearly so. Serratures gland-tipped. *Flowers* small and green, in short, axillary paniculoid cymes. *Calyx* 5-toothed. *Petals* triangular, twice as long as broad, valvate in æstivation. *Stamens* in some flowers abortive; and then very small, with hispid anthers. *Styles* at first parallel and connate, then diverging. *Capsule* opening by a fissure between the two, diverging styles.

Allied to *Forgesia* in character, but with very different foliage and flowers. Our plant has the general aspect of some *Rhamnus*.

Fig. 1, a branchlet, in flower; the *natural* size. Fig. 2, a flower, just opening; 3, two of the petals, three calyx lobes behind them, and three abortive stamens, in situ; 4, a stamen; 5, one of the abortive stamens; 6, connate styles from a flower; 7, a nearly ripe capsule; 8, divergent styles of the same; 9, cross section of ovary; all *magnified*.

124. CURTISIA FAGINEA, Ait. (*Corneæ.*)

C. faginea, *Ait. Hort. Kew*, 1, 162; *DC. Prodr.* 2, p. 12; *Lam. Ill. t.* 71; *Th. Fl. Cap.* 141; *Burm. Dec. Afr.*, p. 235, *t.* 82; *Harv. & Sond. Fl. Cap.* 2, p. 570; *Pappe, Sylv. Cap. Ed.* 2, p. 19.

Hab.—Forests, throughout the colony and in Caffraria. (Herb. T. C. D.)

Descr.—A tree, 20–40 feet high, with dark-coloured bark. *Leaves* petiolate, opposite, ovate or ovate-oblong, acute, somewhat cuneate at base, coarsely toothed, coriaceous, glossy above, paler and strongly penninerved beneath, the nerves puberulous. *Flowers* 4-parted, minute, greenish, in terminal, trichotomous tomentulose panicles. *Ovary* 4-celled, with a pendulous ovule in each cell. *Fruit* slightly fleshy, inclosing a hard, 4-celled nut.

Well known as the *Hassagayboom*. "The wood, which is highly prized within the colony, is solid, extremely tough, heavy, close-grained, very durable, and resembles plain mahogany. It answers well for all kinds of superior furniture, tools, &c.; but is truly invaluable, and not to be surpassed by any other wood, in the construction of wagons, particularly in the country, where the natural difficulties of the roads, the great distances to go, and the excessive heat of the climate, require strong and substantially built vehicles for travelling. Called *Omhlebe* by the Kaffirs."—*Pappe, l. c.*

Fig. 1, a flowering twig; *natural* size. Fig. 2, a flower; 3, calyx and ovary; 4, a petal; 5, stamen; 6, cross section of ovary; 7, ovule; 8, fruit; 9, section of same, *magnified.*

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125. HARPEPHYLLUM CAFFRUM, Bernh. (*Terebintaceæ.*)

H. Caffrum, *Bernh.—Harv. & Sond., Fl. Cap.* 1, p. 525, *Pappe, Sylv. Cap. Ed.*, 2, p. 14; *Spondias? falcata, Meisn.*

Hab.—Woods at Howison's Poort, near Grahamstown, *Zeyher! H. Hutton, Dr. Atherstone.* Uitenhage, *Ecklon! J. Brehm!* Port Elizabeth, *Mrs. Holland*, No. 45. Natal, *J. M'Ken!* (Herb. T. C. D.)

Descr.—A tree, 20–30 feet high, with the habit of *Ekebergia Capensis* (for which it has sometimes been mistaken). *Branches* knotted, after the leaves drop. *Leaves* 8–12 inches long; leaflets in 5–7 pairs, 2–2½ inches long, 6–9 lines wide, lanceolate-acuminate, unequal-sided, somewhat falcate-recurved. *Male* panicle terminal, half as long as the leaves; flowers small and white. *Petals* 4–5. *Stamens* 8–9.

This, in common with *Ekebergia Capensis*, is called "*Esenhout*," or "*Cape Ash.*" Its fruit is edible. "Wood, red, tough, very handsome when polished, and useful for household furniture, planking, and various other purposes."—*Pappe l. c.*

Fig. 1, end of a flowering (*male*) branch and leaf; *natural* size. Fig. 2, a flower: 3, petal; 4, stamen; 5, abortive ovary; 6, a berry; all but fig. 6 *magnified.*

126. XIMENIA CAFFRA, Sond. (*Olacineæ.*)

X. Caffra: tomentosa; ramis spinosis ferrugineis, foliis ellipticis v. oblongo-ellipticis obtusis emarginatis coriaceis supra demum glabratis; pedunculis axillaribus solitariis v. binis unifloris, petalis extus pubescentibus intus dense barbatis.—*Sond. in Linn.* 23, p. 21. *Fl. Cap.* 1, p. 235.

Hab.—Woods at Magalisberg, *Zey!* 1847. Port Natal. *Gueinzius.* (Herb. T. C. D.)

Descr.—A coarse shrub. *Branches* widely spreading, terete or angular, mostly clothed with short, rust-coloured tomentum, sometimes glabrous, armed with short, stout, spreading, axillary or exaxillary spines. *Leaves* on short petioles, about $1\frac{1}{2}$-2 inches long, an inch, or rather more wide, quite entire, obtuse, one-nerved, the younger on each side clothed with short pubescence, the full grown shining above. *Pedunc.* axillary, short. *Cal.* 4-fid. *Petals* 4, oblong, densely bearded within, with an inflexed point. Stamens, 8; anthers linear, erect.

The specimens from Natal (var. β. Natalensis, *Sond.*) have leaves and branches glabrous, and nearly resemble *X. laurina*, DC.

Fig. 1, flowering branch; the *natural* size. Fig. 2, calyx, stamens, and ovary, in situ (the petals removed); 3, front and side view of a petal; 4, a stamen; 5, ovary; 6, placenta and 4 pendulous ovules; 7, drupe; all *enlarged.*

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127. EMBELIA KRAUSSII, Harv. (*Myrsineæ.*)

E. Kraussii: glabra; foliis obovato-oblongis acutis integerrimis marginibus reflexis basi cuneatis breviter petiolatis; racemis lateralibus folio brevioribus; lobis calycinis deltoideis acutis; petalis oblongis patentibus calyce duplo longioribus.—*Celastrus oleoides, Hochst! in Pl. Krauss, No.* 407 (*excl. syn.*).

Hab.—Natal, *Dr. Krauss!* (Herb. T. C. D.)

Descr.—A glabrous shrub. *Leaves* 1–$1\frac{1}{2}$ inches long, oblong or obovate, acute, cuneate at base, shortly petiolate, thin and membranous, the margin slightly reflexed; nerves pennate, but very slender. Racemes lateral, from old leaf scars, $\frac{1}{2}$–$\frac{3}{4}$ inch long, 8–12 flowered. *Bracts* concave, oval, much shorter than the pedicels. *Calyx* small, cupshaped, distantly 5-toothed. *Petals* 5, oblong, narrower below, hypogynous, imbricate in æstivation, straight, not convolute, much longer than the calyx. *Stamens* 5, opposite the petals, and adnate to them at base; filaments shorter than the petal, flattish, subulate; anther medifixed, erect, 2-celled, opening inwards. *Ovary* half sunk in a fleshy, 5-crenate disc, 1-celled, with two basal ovules; style filiform; stigma simple.

Of this I have only seen the small specimen distributed by *Krauss*, and erroneously referred by Hochstetter to the widely different *Celastrus oleoides*, Lam. (*C. laurinus*, Thunb.). There can be no doubt that it is a species of *Embelia*, and I think quite unlike any of those described by De Candolle.

Embelia (including therein *Choripetalum*, A. DC., which only differs by a 4-parted flower) is remarkable among *Myrsineæ* for its polypetalous corolla, its very small placenta and few ovules; by the first of these characters it is anomalous as a member of a monopetalous Order. In *Myrsine*, however, though the corolla is more usually shortly rotate, it is sometimes dialipetalous, and in several of its species the ovules are few; thus removing some of the chief distinctive characters of *Embelia* itself.

Fig. 1, branch in flower; *natural* size. Fig. 2, a flower; the same after removing petals and stamens; 4, calyx laid open, seen from within; 5, petal and stamen; 6. ovary; 7, the same, cut open longitudinally; 8, cross section of ovary; *magnified*.

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128. HETEROPYXIS NATALENSIS, Harv. (*Heteropyxideæ.*)

Gen. Char.—*Calyx* cyathiformis, 5-dentatus, æstivatione vix imbricatus. *Petala* 5, ovata, calycis fauce inserta, subsessilia, pellucido-punctata. *Discus* perigynus, calycis tubum tegens, tenuis. *Stamina* 5, cum petalis inserta, et iisdem opposita; filamenta subulata; antheræ biloculares, versatiles, lateraliter dehiscentes. *Ovarium* liberum, 2-vel rarissime 3-loculare; ovula numerosa, semiamphitropa, in placentis carnosulis dissepimento adnatis; stylus cylindricus: stigma obtusum. *Fructus* . . .?

H. Natalensis, *Harv. in Herb. T. C. D.*

Hab.—Port Natal, *Gueinzius!* Nototi, *W. T. Gerrard!* No. 1511. Umcomas, *M. J. K'Ken!* (Herb. T. C. D.)

Descr.—A low tree, glabrous in all parts. Leaves alternate, shortly petiolate, tapering to both extremities, acuminate, quite entire, reticulately veined, pellucid-dotted, paler on the under surface. *Flowers* small, "dull white, fragrant" (*G. & M'K.*), in terminal or axillary panicles, pedicellate; the pedicels minutely bracteate at base. *Calyx* cup-shaped, 5-toothed, the teeth bluntly deltoid, subvalvate in æstivation. *Petals* inserted in the throat of the calyx, whose tube is lined with a thin expansion of the disc, alternate with the segments, ovate, pellucid dotted. *Stamens* opposite the petals, and inserted with them; filament short; anther versatile. *Ovary* free, very generally 2, very rarely 3-celled, with many ovules in each cell, affixed to axile placentæ. *Style* short; stigma simple. *Fruit* unknown.

This highly curious new genus, which I am unable to refer definitively to any established Natural Order, seems, in its floral characters, to combine some of the prominent features of two widely-separated Orders, namely, *Myrsineæ* and *Lythrarieæ*; and also to present, though in a much less degree, some of the characters of *Rhamneæ*.

At first I felt disposed to consider it as an anomalous genus of *Myrsineæ*, with which Order it agrees in habit, besides having the pellucid dots found in several species, and the stronger character of the stamens opposing the petals. Nor do the polypetalous flowers, nor the perigynous insertion of petals and stamens, offer an obstacle to such relation-

ship; for we have separate petals constantly in *Embelia*, and often in *Myrsine*; and perigynous insertion in *Maba*. But in *Heteropyxis* the ovary is never unilocular, nor is the placentation "free-central;" consequently I am advised by my friend Dr. Hooker, and other botanists with whom I have consulted, that it cannot with any propriety be placed in *Myrsineæ*.

Let us next compare it with *Lythrariea*, to which, as suggested to me by Drs. Hooker and Thomson, *Heteropyxis* bears a very considerable relationship, greater perhaps than that to *Myrsineæ*; insomuch that possibly it may yet be proved to be an actual Lythrarieous genus. In the first place, it sufficiently agrees with *Lythrariea*, in the perfectly entire leaves, in the absence of stipules, in inflorescence, and in the structure of the ovary. Nor do the glandular dots offer any anomaly, for such occur, both in calyx and foliage, in some *Lythrariea* (as in *Woodfordia* (*Grislea tomentosa*, Auct.)). In the form of the calyx, moreover, and very nearly, though not exactly, in its æstivation; in the perigynous insertion of petals and stamens, we have further characters of *Lythrariea*. But in most *Lythrariea* the stamens are inserted within the tube of the calyx, at an appreciable and generally considerable distance below the point of insertion of petals, and in cases where they are equal in number to the petals, they alternate with them; and even in the known diplostemoneous genera of *Lythrariea*, the *outer* stamens alternate with the petals, as in *Lythrum*. The insertion of the stamens within the calyx tube, however, though general, is by no means constant in *Lythrariea*; for they are placed in the throat of the calyx in *Antherylium*, *Duabanga*, *Sonneratia*, *Punica* (if that be Lythrarieous), and in *Crypteronia*. In the last named genus, as Dr. Hooker suggests, we have the nearest approach to *Heteropyxis*; for had *Crypteronia* petals, they would *oppose* the stamens, exactly as do those of *Heteropyxis*. *Crypteronia*, however, differs by its opposite leaves, strictly valvate calyx, form of anthers, and unisexual flowers. Nor do we yet know whether there is any agreement in structure of fruit or seed. The time has not come, therefore, for associating *Heteropyxis* with *Lythrariea*, although we may admit an affinity, perhaps sufficient to authorize our placing it in an appendix to that Order.

Very few words will suffice to show that the connexion with *Rhamneæ* is more apparent than real. *Heteropyxis* indeed agrees with *Rhamneæ* in the opposition of the stamens to the petals, and their joint insertion at the summit of the disc-lined calyx-tube; but it differs very much in habit, especially in the nervation of the leaves, the absence of stipules, and in inflorescence; in the presence of glandular dots; in the æstivation of the calyx, and more especially in the polyspermatous placentæ. Thus the points which separate it from *Rhamneæ* are more numerous, and some of them of graver import, than those that suggest its relationship to that Order.

What, then, shall we do with our *Heteropyxis*? Until its ripe fruit and seeds shall have been seen and examined, its true place in the system must remain uncertain. The name, derived from ἕτερος, and πυξὶς, was given to it on the supposition that it might prove to be an anoma-

lous genus of *Myrsineæ*, and was intended to allude to the character of ovary which separates it from other genera of that Order. [The "*Heteropyxis*" of Griffith is superseded by *Boschia*, Korth., adopted by Benth. and Hook. in their Genera Plantarum].

I take this opportunity of drawing the attention of my kind correspondents at Natal to this shrub, and trust they may, before long, by sending home specimens of its ripe fruit and seeds, enable botanists to come to a more satisfactory opinion on its affinities.

Fig. 1, flowering branch; the *natural* size. Fig. 2, an open flower and two flower buds; 3, calyx, bearing the petals and stamens, opened out; 4, a petal; 5, a stamen; 6, ovary; 7 and 8, different cross sections; 9, an ovule; all *magnified*.

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129. MÆSA ALNIFOLIA, Harv. (*Myrsineæ.*)

M. alnifolia : ramulis puberulis; foliis petiolatis cuneato-obovatis subtruncatis penninerviis apice crenato-dentatis glabris subtus tenuissime puberulis, racemis axillaribus puberulis simplicibus, floribus polygamis, bracteis minutis, lobis calycinis ovatis puberulis, corolla (marium) calyce duplo longiore.

Hab.—Natal, *Gueinzius*, *J. Sanderson*. Fort Bowker, *H. Bowker*. British Caffraria, *T. Cooper*. (Herb. T. C. D.)

Descr.—A large shrub or small tree. *Twigs*, peduncles, and young parts in general, minutely pubescent. *Leaves* on $\frac{1}{2}$–$\frac{3}{4}$ inch long petioles, broadly obovate-cuneate or fan-shaped, 1–1$\frac{1}{2}$ inch long, 1 inch wide, or sometimes more, penninerved, usually truncate or round topped and bluntly toothed, but varying to pointed, the adult glabrous above, minutely puberulous beneath. *Racemes* longer or shorter than the leaves. *Flowers* ♂ and ♀ : the *male* with 5 perfect stamens and an abortive ovary; the *female* with glandlike, minute, subsessile staminodia. *Corolla* white, with ovate lobes; that of the male flowers larger than of the female. *Ovary* inferior, with a free central placenta and many ovules.

This new species of *Mæsa* is quite distinct from *M. rufescens*, A.DC., the only recorded species from S. Africa, and seems to me to be equally different from any of the other species of Asiatic or Insular origin described by De Candolle. Its leaves vary somewhat in form, but usually, as represented in our plate, bear much resemblance to those of the common alder. It would appear to be distributed pretty widely, from Natal to the eastern frontier of the Cape Colony.

Fig. 1, a flowering branch; the *natural* size. Fig. 2, calyx; 3, male flower, front view; 4, petal and stamen from the same; 5, female flower, side view; 6, its corolla laid open; 7, longitudinal section of its ovary; 8, abortive ovary of the male flower; *magnified*.

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130. QUISQUALIS PARVIFLORA, Gerr. (*Combretaceæ.*)

Q. parviflora : ramulis, petiolis, foliisque junioribus rufo-pubescentibus; foliis brevi-petiolatis membranaceis reticulatis ovali-oblongis

acuminatis supra glabrescentibus subtus ad nervos et margines pubescentibus; bracteis oblongo-lanceolatis persistentibus; calycis tubo unciali, lobis deltoideis acutis; petalis subrotundatis intus hispidulis; antheris globosis subsessilibus.—*Harv. & Sond. Fl. Cap.* 2, p. 512.

HAB.—On dry rocks. Umhtoti, Natal, *W. T. Gerrard.* (Herb. T. C. D.)

DESCR.—A shrub. *Calyx* tube an inch long, clavate; lobes $\frac{1}{2}$ line long, tipped with rufous bristles. *Petals* 1–1$\frac{1}{2}$ lines long, and nearly as wide, silky on the outside, minutely hispidulous within. *Filaments* not half a line long, the anthers of the longer stamens in the throat of the calyx; those of the shorter quite included.

One of Mr. Gerrard's numerous interesting discoveries in the Natal country. It has the aspect of *Q. indica*, but much smaller flowers, and different stamens and petals. It is equally distinct from *Q. ebracteata*, Beauv., the only African species recorded.

Fig. 1, flowering branch; the *natural* size. Fig. 2, a flower; 3, upper part of the calyx tube laid open, showing the stamens and 2 petals in situ; 4, petal; 5, a stamen; 6, ovary (cut through to show the ovules) and style; all *magnified.*

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131. PAVETTA BOWKERI, Harv. (*Rubiaceæ.*)

P. Bowkeri: ramulis bifariam puberulis; foliis oblongo-lanceolatis acuminatis basi in petiolo pubescente attenuatis margine recurvis supra glaberrimis subtus tomentosis; panicula laxe trichotoma glaberrima; calycis lobis subulatis tubo 3–4plo longioribus; corolla glabra.

HAB.—Swampy ground, at the mouth of the Bashee River, Caffraria; fl. in Feb., *H. Bowker*, No. 459. (Herb. T. C. D.)

DESCR.—A shrub. *Leaves* 2$\frac{1}{2}$–3 inches long, 1–1$\frac{1}{2}$ inch broad, tapering to a sharp point; attenuated at base into a short, pubescent petiole, with slightly recurved margins; quite glabrous above, softly and densely tomentose beneath. *Stipules* acuminate or aristate, variable. *Panicle* terminal, repeatedly 3-forked, spreading, corymbose; bracts small. *Calyx-lobes* long, awl-shaped, 3–4 times longer than the ovary. *Corolla* white, its slender tube longer than the oblong, acute lobes.

A very handsome species, with jasmine-like flowers. I have only seen the specimens communicated by *Mr. Bowker*, through his sister, my valued correspondent, *Mrs. F. W. Barber.*

Some other new species of *Pavetta* have recently been discovered in the Natal and Zulu districts by Mr. T. Cooper and Messrs. Gerrard and M'Ken. One of them (*P. Gerrardi*, MSS.), allied to the present, is equally handsome, and well deserving of cultivation in England. I hope to figure it in a future number. Probably many more species of arborescent *Rubiaceæ* still remain unnoticed in the wooded districts beyond the Eastern frontier.

Fig. 1, a flowering twig; the *natural* size. Fig. 2, corolla laid open; 3, ovary, calyx, and style; 4, cross section of the ovary; *enlarged.*

132. BUNBURYA CAPENSIS, Meisn. (*Rubiaceæ.*)

B. Capensis: *Meisn. in Pl. Krauss. Natalanthe floribunda, Sond. in Linn.*, vol. xxiii., p. 52.

Hab.—Natal, *Krauss, Gerr. & M·K*, No. 705. Transkei country, *H. Bowker.* (Herb. T. C. D.)

Descr.—A much-branched leafy shrub. The virgate *branches* and twigs rusty pubescent. *Leaves* ovato-lanceolate, tapering to a bluntish point, rounded at base, shortly petioled, penninerved, glabrous, except on the nerves beneath. *Petioles, nerves, pedicels,* and *calyx* all rusty pubescent. *Cymules* axillary, 3–5 flowered, on peduncles about equalling the petioles; bracts short, connate into a little cup. *Calyx* subtended by a cup-like toothed bract; its limb campanulate, shortly 6-toothed. *Corolla* salver-shaped, 6-lobed or rarely 7-lobed. *Stamens* in the throat, exserted; filaments subulate; anthers spindle-shaped, straight, versatile. *Ovary* 2-celled, cells uniovulate.

A handsome shrub, with the habit of a *Coffea* or a *Kraussia*, but generically distinct from both. It was originally named *Bunburya*, by Professor Meisner, in compliment to Sir Charles J. F. Bunbury, Bart., who travelled and botanized in South Africa some years since, and to whom I had (in Gen. S. A., Pl. Suppl., p. 416) inscribed an *Asclepiad*, which was not sufficiently distinct from *Cynoctonum*, and is now included in that genus. My friend Sond[illegible]r, supposing that the Asclepiad had preoccupied the name "*Bunburia*," [illegible]hanged the name of Meisner's genus to *Natalanthe*; but I trust he will now coincide with me in the propriety of restoring to it the name given by Meisner, particularly as it commemorates a naturalist in every way deserving of having his name perpetuated in a genus of plants.

Fig. 1, flowering branch; *natural* size. Fig. 2, a corolla; 3, one of its lobes and a stamen; 4, calyx (with its bracts) and style; 5, cross section of an ovary; all *enlarged.*

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133. BERGIA ANAGALLOIDES, E. Mey. (*Elatinaceæ.*)

B. anagalloides: glabra, basi suffruticosa; caule herbaceo procumbente opposite ramoso; foliis remotis oblongis ellipticisve basi in petiolo brevi attenuatis apicem versus denticulatis; stipulis parvis lineari-subulatis integris; floribus solitariis axillaribus; pedicellis folio duplo longioribus; sepalis ellipticis acutis albomarginatis; petalis sepalis longioribus obovatis obtusis integris.—*Fenzl, in An. Wien. Mus.* 1, p. 344; *Walp. Rep.* 2, p. 786; *Harv. & Sond. Fl. Cap.* 1, p. 116.

Hab.—On sand hills, near the right bank of the Orange River, by Verleptpram, *Drege!* Namaqualand, *A. Wyley.* (Herb. T. C. D.)

Descr.—*Root* thick and woody. *Stems* many from the crown, decumbent, 8–12 inches long, terete or subcompressed, scaberulous. *Leaves* $\frac{1}{2}$ inch long, 2–3 lines wide, in pairs an inch apart, denticulate beyond the middle, pale green. *Pedicels* uncial, slender. *Flowers* rosy-purple, resembling those of *Anagallis arvensis*. *Sepals* acute or subacute, with

a broad white margin. *Stipules* much smaller than in other species of *Bergia*.

A very pretty herbaceous perennial, not unworthy of cultivation in English gardens. Its flowers are larger than those of any S. African species, and among the largest found in the order *Elatineæ*.

Fig. 1, part of a stem, in flower; *natural* size. Fig. 2, sepal; 3, petal; 4, circle of stamens, laid open; 5, ovary; 6, cross section of the same; 7, a seed; all *magnified*.

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134. BOSCIA ANGUSTIFOLIA, Harv. (*Capparideæ.*)

B. angustifolia: glaberrima; foliis lanceolato-linearibus, basi et apice attenuatis, subpetiolatis mucronulatis coriaceis venosis stipulatis; stipulis minutis; pedunculis axillaribus terminalibusque foliis brevioribus confertæ racemosis plurifloris; sepalis villoso-marginatis; floribus polyandris.—*Harv. in Harv. & Sond. Fl. Cap.* addenda to vol. i., p. 19.*

Hab.—About Jackalsberg and Missionary Drift, Namaqualand, *Andrew Wyley!* (Herb. T. C. D.)

Descr.—A virgate, slender, glabrous shrub, with pale yellowish-green twigs and leaves. *Leaves* 2–3 inches long, 1½–2 lines wide, rigid, flat or inrolled, scattered, spreading. *Pedunc.* ½–1½ inches long, 6–10 flowered; bracts at base of pedicels linear, deciduous, each with 2 minute, persistent stipellæ. *Stipules* tooth-like, minute. *Calyx tube* conical, densely glandular in the thr[illegible]t. *Sepals* oblong, blunt, with woolly margins. *Ovary* on a long stalk, oval. *Fruit* not seen.

A remarkable shrub, which, though not uncommon in the above habitats, appears to have escaped the notice of every collector except *Mr. Wyley*, who, whilst employed as geological surveyor in Namaqualand, discovered this and many other interesting plants, and kindly presented his specimens to the Dublin Herbarium. The wood is said to be hard, and close-grained.

Fig. 1, a flowering branch; *natural* size. Fig. 2, a flower; 3, two of the sepals, showing the bearded throat of the calyx; 4, cross section of the ovary; 5, stigmata; all *magnified*.

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135. SCHEPPERIA JUNCEA, DC. (*Capparideæ.*)

S. juncea: *DC. Prodr.* 1, p. 245; *Linnæa*, 1, p. 255, t. iii.; *Harv. & Sond.? Fl. Cap.* 1, p. 59; *Cleome juncea, Sparm. Linn. Syst.* p. 605 (*non. Th. Fl. Cap.*); *Cleome aphylla, Th. Fl. Cap.* p. 497; *Macromerum junceum, Burch. Trav.* 1, p. 388; *Schep. aphylla et S. juncea, E. et Z.! Enum.* 106, 107.

Hab.—Karroo, beyond Hartequa's Kloof, *Thunberg.* Great Fish River, *Bergius.* Gariep, *Burchell.* Swellendam, Clanwilliam, Graaf Reynet, and Uitenhage, *E. & Z.! Drege, Krauss.* Sneeuweberg, *A. Wyley.* Modderfontein, Namaqualand, *Rev. H. Whitehead.* Near Craddock, *T. Cooper*, No. 497. (Herb. T. C. D.)

Descr.—A much-branched, rigid, nearly leafless shrub, 2–3 feet high. *Branches* alternate or rarely opposite, or fascicled, erecto-patent or spreading, often spinous at the points. *Leaves* none, except on the

very young twigs; then scale-like, acute, 1 line long. *Racemes* shortly corymbose, lateral. *Flowers* red or yellowish. *Peduncles* clammy. *Sepals* unequal, the back and front sepal keeled, the latter ovate, much larger: lateral sepals flat, ovate, acute. *Stamens* mostly 8. *Fruit* a sausage-shaped berry, 1½–2 inches long, as thick as a goose-quill, viscid, densely glandular, and strongly scented.

Though neither new nor very uncommon, I have thought this shrub worth figuring, on account of its rush-like, naked stems and branches, and its singularly formed flowers. These seem to be commonly red, but are said to vary to yellow. Their viscid glandular pubescence has the peculiar smell so characteristic of most of the *Capparideæ*, and which is still more pungent in the fleshy fruit of this bush.

Fig. 1, flowering branches; *natural* size. Fig. 2, the four sepals, in position; 3, the stamens and stipitate ovary, with the hoodlike *nectary* at base of the staminal column; 4, an anther; all *magnified*.

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136. DIANTHERA BURCHELLIANA, Kl. (*Capparideæ*.)

D. Burchelliana: glauca, caule terete striato aculeis innocuis reflexis exasperato, foliis inferioribus longe-petiolatis 7-foliolatis, superioribus brevius-petiolatis 3–5 foliolatis, foliolis angustissime linearibus obtusis; petalis inæqualibus obovatis, staminibus fertilibus 2, staminodiis 6 brevioribus appendicula conico-oblonga coronatis, siliquis linearibus pendulis glabris.—*Kl. in Peters, Mozamb. Bot.*, p. 161, *in note*; *Sond. in Fl. Cap.* 1, p. 58; *Cleome diandra, Burch. Trav.* 1, p. 548; *Polanisia dianthera, DC. Prodr.* i., p. 242.

Hab.—Gattikamma, *Burchell.* Stony hills at Zwartbulletje and at Gamke River, *Drege.* Namaqualand, *A. Wyley.* Near Brak River, Craddock, *T. Cooper*, No. 583. (Herb. T. C. D.)

Descr.—A tall, straggling annual, 1–3 feet high; slender, the stem more or less sprinkled with rigid, but blunt, recurved bristles. *Branches* erect, striate. *Leaflets* 1–1½ inch long, ½ line wide. *Flowers* rosy? *Pods* 2–2½ inches long, 1½ line wide; at first suberect, then pendulous.

Mr. Cooper's specimens have very few of the reflexed bristles on the stem, but do not otherwise differ.

Fig. 1, branch in flower; the *natural* size. Fig. 2, a sepal; 3, one of the larger, and 4, one of the smaller petals; 5, a stamen; 6, a staminodium; 7, top of the latter; all *magnified*.

137, 138. DOMBEYA BURGESSIÆ, Gerr. (*Byttneriaceæ*.)

D. Burgessiæ: ramulis petiolis pedunculisque dense villosis, foliis longissime pedunculatis basi cordatis breviter et obtuse 3–5-lobatis utrinque molliter villoso-tomentosis, pedunculis petiolum equantibus cymoso-corymbosis multifloris, bracteis . . . . ? sepalis lanceolatis acuminatis villosis, ovario tomentoso.—*Harv. in Fl. Cap.*, vol. ii., *Suppl.*, p. 590.

Hab.—Zululand, *M. J. M'Ken.* Klip River. Natal, *W. T. Gerrard.* (Herb. T. C. D.)

Descr.—A much-branched shrub, 8–10 feet high, with beautiful pale green foliage, resembling that of *Sparmannia Africana*. *Petioles* 4–6 inches long; stipules $\frac{1}{2}$ inch, ovato-lanceolate. *Leaves* 5–7 inches across, 5–7-nerved, with as many shallow, blunt lobes, clothed with long, soft, simple hairs. *Flowers* $1\frac{1}{4}$–$1\frac{3}{4}$ inches across, white, pencilled with rosy lines, showy and fragrant.

A very fine species, one of three new *Dombeyæ*, added to the Cape Flora since the publication of vol. i.; a proof of the activity of our correspondents. Other new species may be expected in the Natal district, but we can hardly anticipate one finer than this, which is dedicated by Mr. Gerrard to Miss Burgess, of Birkenhead.

Fig. 1, a leaf and peduncle; the *natural* size. Fig. 2, a sepal; 3, petal; 4, two of the staminodia, and two parcels of stamens; 5, ovary and style; *magnified*.

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139. CYRTANTHUS BREVIFLORUS, Harv. (*Amaryllideæ*.)

C. breviflorus: foliis binis longe-lingulatis apice attenuatis subacutis, umbella 6–9 flora, floribus erecto-patentibus infundibuliformibus, tubo brevi lacinias lanceolatas acutas subequante, filamentis brevissimis.

Hab.—Natal, *Krauss*, No. 255. Summit of the Kaga Berg, and about the sources of the Kat River, 6000 feet, *H. Hutton*. In marshy ground, Umgaika Kop, *T. Cooper*. No. 255. (Herb. T. C. D.)

Descr.—*Bulb* white (*T. Cooper*). *Leaves* flat, strap-shaped, 12–15 inches long, $\frac{1}{2}$–$\frac{3}{4}$ inch wide, tapering to a bluntish point. *Scape* scarcely equalling the leaves, terete. *Umbel* several-flowered, the spathe-bracts lanceolate, membranous. *Pedicels* slender, erect, or slightly spreading. *Perianth* bright yellow, shortly funnel-shaped, the segments as long as the tube or rather longer, lanceolate, acute. *Stamens* in the throat, the three longer scarcely exserted, all with very short filaments. *Anthers* versatile.

A very pretty bulbous plant, allied to *C. lutescens* (*Bot. Mag.* t. 5374), but readily known by its short flowers, and much broader flat leaves. I fear my figure (taken from dried specimens) represents the limb of the perianth too much spread. It seems to be widely distributed. The specimens from the above localities precisely agree. *Krauss's* specimens ought to have been seen by Kunth, but I cannot find that they are noticed in the Enumeratio Plantarum.

Fig. 1, scape and leaf; the *natural* size. Fig. 2, perianth, laid open; 3, a stamen; 4, ovary and style; 5, cross section of ovary; all *enlarged*.

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140. TURNERA CAPENSIS, Harv. (*Turneraceæ*.)

T. Capensis: dense hirsuta; caule humili suffruticoso basi ramoso; foliis lanceolato-oblongis obtusis dentatis basi angustatis brevissime petiolatis, pedunculis axillaribus unifloris liberis folio multo brevioribus, calyce profunde 5-fido, laciniis lineari-lanceolatis acutis, petalis oblongo-ovatis.—*Harv. in Fl. Cap.*, vol. ii., *Suppl.*, p. 599.

Hab.—Aapjes River, *Burke & Zeyher!* (Herb. T. C. D.)

Descr.—*Root* thick and woody. *Stems* 4–6 inches high, erect, simple, or slightly branched. Every part of the plant is thickly clothed with loose coarse pubescence. *Leaves* 1–1½ inches long, 4–5 lines wide, very hairy. *Peduncles* 4–7 lines long, curved. *Flowers* small, and probably white. *Calyx*-tube not one fourth as long as the lobes. *Filaments* flat, subulate. *Ovary* hirsute. *Styles* longer than the stamens; stigmas expanded, channelled, fimbriate.

An interesting, though not a conspicuous, plant; one of the very few species of the order, and the only one of the genus, found in Africa. It was accidentally omitted from its proper place in vol. ii. of *Fl. Cap.*, but will be found in the Appendix, as above quoted.

Fig. 1, a plant; the *natural* size. Fig. 2, a flower laid open; 3, a petal; 4, a stamen; 5, ovary and trifid style; 6, one of the style branches; all *magnified.*

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141. ONCOBA KRAUSSIANA, Pl. (*Bixaceæ.*)

O. Kraussiana: inermis, foliis elliptico-oblongis obtusis vel vix acutis puberulis demum glabratis integerrimis, pedunculis terminalibus axillaribusve, petalis 9–12 obovatis basi attenuatis hispidulis, antheris linearibus obtusis v. brevissime mucronulatis.—*Harv. & Sond. Fl. Cap.* 1, p. 66. *Xylotheca Kraussiana, Hochst.*

Hab.—Natal, *Krauss*, 352. *Plant*, 45. *Sanderson*, 34. *Gerr. & M'K.*, 693. (Herb. T. C. D.)

Descr.—A much branched shrub or small tree, 10–15 ft. high. Young twigs pubescent, older with a rough, ashen bark. *Leaves* 2–2½ inches long, 1–1¼ broad, midribbed, penninerved, and netted veined; paler below, quite entire. *Peduncles*, 2–3 inches long. *Flowers* large and handsome, with many petals. *Petals* broad, obovate, much attenuated at base, sprinkled with curled, short hairs. *Anthers* linear, nearly as long as the filaments, obtuse or subacute. *Ovary* usually hairy; in *Mr. Sanderson's* specimen glabrous.

A handsome flowering shrub, not uncommon near D'Urban, Natal. Whether the var. with *glabrous* ovary be permanently distinct remains to be seen. I can detect no other character by which to distinguish the specimen seen.

Fig. 1, a flowering branch; *natural* size. Fig. 2, a petal; 3, stamen; 4, ovary and style; *enlarged.*

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142. ONCOBA SPINOSA, Forsk. (*Bixaceæ.*)

O. spinosa: spinis axillaribus armata, glabra; foliis brevi-petiolatis ovato-acuminatis membranaceis reticulatis denticulatis, pedunculis terminalibus unifloris, petalis 5–12 obovatis basi latiusculis minute denticulatis glabris, antheris oblongis brevibus mucronatis.—*Harv. in Sond. & Harv. Fl. Cap.* vol. ii., p. 584, *Suppl. O. monacantha, Steud.*

Hab.—Near Port Natal, *W. T. Gerrard.* Shire River, *Dr. Kirk.* Also in North and West Africa, within the Tropics. (Herb. T. C. D.)

Descr.—A shrub, 6 feet high, or more. *Bark* whitish, tubercled. *Leaves* 3–4 inches long, $1\frac{1}{2}$–$2\frac{1}{2}$ inches wide, gradually or suddenly acuminate, finely and bluntly toothed, acute or obtuse; in our specimens rounded at base. *Spines* from $\frac{1}{2}$ to $1\frac{1}{2}$ inches long. *Flowers* white, 2 inches across, resembling white roses. *Anthers* tipped with a fleshy point, small, many times shorter than the filament. *Fruit* one-celled, with a solid shell, pulpy inside, and many seeded.

The fruit, *Mr. Gerrard* informs me, is well known to the Natal and Zulu Kafirs, who wear it hung round the neck, and use it for a snuff-box, calling it *thunga*. This shrub is widely dispersed on the African continent. I have examined specimens from various quarters, but never found so few as 5 petals: is that number erroneous?

Fig. 1, a flowering branch; 2, an opened flower-bud; both the *natural* size. Fig. 3, a petal; 4, a stamen; *enlarged*.

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143. PETALIDIUM LINIFOLIUM, T. Anders. (*Acanthaceæ.*)

P. linifolium: erectum, glabrum, ramis lignosis; foliis sessilibus linearibus acutis uninerviis glabris, pedicellis axillaribus solitariis unifloris, bracteis 2 concavo-ovatis mucronatis infra medium connatis membranaceis albis nervis viridibus pulcherrime reticulatis, calycis laciniis lineari-lanceolatis inæqualibus extus glandulosis, corolla infundibuliforme extus puberula tubo brevi limbo inæqualiter 5-lobo, lobo inferiore transversim corrugato.—*T. Anders! in Linnæan Soc. Journal*, vol. vii., *Bot.*, p. 25.

Hab.—Damara Land, *Miss Elliott*. (Herb. T. C. D.)

Descr.—A rigid, slender, much branched, small shrub. *Branches* glabrous, with smooth, pale bark, opposite or scattered. *Leaves* 1–$1\frac{1}{2}$ inches long, about 1 line wide, tapering a little to base and apex, subacute, strongly nerved. *Pedicels* slender, axillary, shorter than the leaf. *Flowers* conspicuous. *Bracteæ* 2, enclosing the calyx, connate below, boat-shaped, acuminate, papery-membranous and netted with slender, green veins. *Calyx* segments unequal, subulate, glandular. *Corolla* with a funnel-shaped tube and unequal, 5-lobed limb; the lobes very obtuse. *Stamens* 4; anthers mucronate at base. *Style* unequally bifid; ovules 2 in each cell.

A very handsome plant, remarkable for its netted, white bracts. The only other known species of *Petalidium* is a native of India, and has broad, ovate leaves.

Fig. 1, a branch in flower; the *natural* size. Fig. 2, the connate bracteæ; 3, calyx; 4, corolla laid open; 5, a young corolla, before anthesis, to show the æstivation; 6, stamens; 7, ovary and style; 8, vertical section of ovary; all more or less *magnified*.

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144. RUTTYA OVATA, Harv. (*Acanthaceæ.*)

R. ovata *Harv. in Hook. Lond. Journ.* 1, p. 27. *Meisn. Gen.* p. 367. *Nees, in DC. Prodr.* xi., p. 309. *T. Anders, in Linn. Soc. Journ.* vol. vii. *Bot.*, p. 51.

HAB.—Port Natal, *T. Williamson! Drege, Gueinzius.* Near Umgani River, *Gerrard* and *M'Ken.* (Herb. T. C. D.)

DESCR.—A shrub, 8–10 feet high. *Branches* sparsely pilose or glabrous, bluntly 4-angled. *Leaves* ovate-acuminate, tapering at base into a short, winged petiole, 3–5 inches long, 1–2 inches wide, membranous, penni-nerved, glabrous or nearly so. *Spikes* terminal, ovate-oblong or cylindrical, densely many-flowered, bracteate; the bracts subulate. *Calyx* lobes subequal, very long and slender, subulate. *Corolla* bright red, labiate; the upper lip erect, flat, semibifid; lower deflexed, deeply 3-parted, the lobes oblong, subacute. *Stamens* 2, fertile, inserted in the throat, exserted, with unilocular, oblique anthers; and 2, abortive, reduced to short teeth. *Style* filiform, minutely pubescent; stigma shortly bifid. *Capsule* obovate, tapering much at base; the cells 2-seeded.

A handsome shrub, well worthy of cultivation. The genus is named after *Dr. Rutty,* a physician of the last century, author of a natural history of the county of Dublin.

Fig. 1, a flowering branch; the *natural* size. Fig. 9, calyx; 3, corolla laid open; 4, apex of stamen; 5, capsule, in the withered, persistent calyx; 6, one of the valves of the same; variously *magnified.*

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145. SCLEROCHITON HARVEYANUS, Nees. (*Acanthaceæ.*)

S. Harveyanus: floribus axillaribus solitariis subsessilibus. *Nees in DC. Prodr.* xi. p. 279. *T. Anders. in Linn. Soc. Journ.*, vol. vii., *Bot.*, p. 37.

HAB.—Caffraria, *Drege!* No. 4037. Orange River, *Burke.* British Caffraria, *Mrs. F. W. Barber,* No. 40. Perie Bush, Caffr., *W. S. M. D'Urban,* No. 84. (Herb. T. C. D.)

DESCR.—*Stems* shrubby, diffuse or trailing, ramulous; twigs thinly covered with close-lying, short hairs. *Leaves* ovate or ovato-lanceolate, acute or obtuse or taper-pointed, either rounded or tapering at base, $\frac{1}{2}$–$1\frac{1}{2}$ inches long, glabrous, except on the midrib beneath. *Petioles* short, pubescent. *Flowers* solitary, axillary, subsessile, light purple or lilac colour. *Calyx* bracteate at base: the sepals oblong, very blunt, mucronulate, rigid, concave, striate, glabrous, microscopically ciliolate. *Corolla* with a curved, split, internally hairy tube, one-lipped, with 5 blunt lobes. *Stamens* 4, exserted, subequal; anthers one-celled muticous. *Capsule* ovate, stipitate; seeds one in each cell.

The genus *Sclerochiton,* originally founded on this species, differs from *Blepharis* and *Acanthopsis,* which are its nearest allies, in the 5-parted, remarkably stiff and rigid calyx. Dr. T. Anderson, in his recently published list of African Acanthaceæ, above quoted, has generically united to our S. African species the *Isacanthus Vogelii,* Nees, a shrub from Cape Palmas of nearly similar floral structure, but having spicate, not solitary, white flowers; narrow calyx-lobes, and rough-dotted leaves, 2–3 inches long. Our plant grows under trees, by hedge rows, and on the borders of woods, where its pretty, purple flowers, copiously produced, attract attention. It is, however, perhaps scarcely deserving of introduction to an English greenhouse.

Fig. 1, flowering branch; *natural* size. Fig. 2, calyh, with its two enclosing bracts; 3, a sepal; 4, corolla; 5, stamens; 6, ovary and style; 7, ovary cut open; 8, capsule; more or less *magnified.*

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146. SOPUBIA CANA, *Harv.* (*Scrophularineæ.*)

S. cana: cano-tomentosa, ramis strictis erectis, foliis anguste linearibus obtusis uninerviis, calycis dentibus triangularibus acutiusculis, corollæ tubo brevissimo, limbo subrotato.

Hab.—Near Port Natal, *Dr. Sutherland.* Bushman's River, Natal, *Gerrard & M'Ken.*, No. 771. (Herb. T. C. D.)

Descr.—Every part densely clothed with short, white toment. *Stems* suffruticose at base, 12–18 inches high, erect, branched near the summit. *Branches* erect, virgate. *Leaves* closely set, scattered or fascicled, $\frac{3}{4}$–1 inch long, $\frac{1}{2}$ line wide, exactly linear. Flowering branches converted into leafy racemes, the pedicels as long as the leaf, or much shorter. *Bracts* 2 at the base of the campanulate, shortly 5-lobed calyx. *Corolla* membranous, delicately veined; the tube about as long as the bluntly 5-lobed, subequal limb.

This is nearly allied to *S. Dregeana*, but at once known by its copious, hoary, soft, and close indument.

Fig. 1, upper portion of a stem, in flower; *natural* size. Fig. 2, calyx; 3, front view of corolla; 4, corolla laid open; 5, stamens; 6, ovary and style; more or less *magnified.*

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147. HABENARIA SAUNDERSIÆ, Harv. (*Orchideæ.*)

H. (Bonatea) Saundersiæ: caule folioso, foliis lineari-lanceolatis acuminatis patentibus, supremis abbreviatis; racemo laxo multifloro, bracteis membranaceis patentibus ovato-lanceolatis acuminatis ovario vix brevioribus, floribus galeatis, petalis indivisis oblique cultratis porrectis labello basi adnatis apice recurvo-acutis, labello tripartito, laciniis lateralibus falcato-cultratis incurvis acutis intermedia lineari lateralibus equali, rostelli processubus carnosis teretibus clavatis sepalis brevioribus, calcare filiformi pendulo ovario sublongiore.

Hab.—Port Natal, *Mrs. Saunders.* (Herb. T. C. D.)

Descr.—*Stem* 1–2 feet high, leafy throughout. *Leaves* with short, closely clasping sheaths, spreading, 3–6 inches long, 3–5 lines wide, flat, linear-acuminate, membranous, the uppermost gradually shorter. *Racemes* 6–10 flowered, lax. *Bracts* membranous, ovato-lanceolate, open and spreading. *Flowers* on shortish pedicels. *Ovary* linear-clavate. *Back* sepal erect, helmet-shaped, acuminate; lateral deflexed, broadly falcato-cultrate, acute. *Petals* undivided, attached at base to the labellum, similar in shape to the lateral sepals, but narrower and more oblique. *Labellum* tripartite, the medial lobe narrow, linear-filiform; the lateral broad, falcate, incurved. *Processes* linear-clavate (*not well represented in the figure*).

Of this very distinct species I have seen but a single specimen, collected by *Mrs. Saunders*, and given to the Dublin Herbarium by her

sister, *Miss Wheelwright*. It is quite unlike any S. African species, but seems allied to *H.* (*Bonatea*) *gracilis*, Lindl. from Peninsular India.

Fig. 1, flowering stem; the *natural* size. Fig. 2, one of the lateral sepals; 3, a petal; 4, labellum with the petals in situ; 5, flower, after removing the sepals, petals, labellum, and processes of the rostellum; more or less *magnified*.

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148. DISPERIS PALUDOSA, Harv. (*Orchideæ*.)

D. paludosa: caule glaberrimo, foliis lineari-lanceolatis linearibusque acutis, floribus solitariis v. sæpius 3–4 nis, sepalis omnibus acuminatis glabris, lateralibus divaricato-patentibus cornutis, petalis falcatis intus glanduloso-punctatis, labello lineari apice glanduloso truncato sub apice appendice naviculari membranacea acuto aucto.—*Lindl. in Hook. Lond. Journ. Bot.* 1, p. 14. *Sond. in Linn.*, vol. xix., p. 112.

Hab.—In boggy or marshy places. Sides of Devil's Mount, *Ecklon*, Oct., 1813. Near Camp's Bay; also on Table Mount Summit, and at the Fransche Hoek, *W. H. H.* Oct., Nov., Dec., 1840. Kat River, *H. Hutton*, 1863. (Herb. T. C. D.)

Descr.—*Tuber* oblong, making runners. *Stem* quite glabrous, 4–15 inches high, bearing 3 or 4 leaves. *Leaves* sheathy at base, lanceolate or sublinear, concave, acute, erect. *Flowers* either solitary or 2–4 in a short, often flexuous spike, purple. *Back* sepal adnate to the petals, vaulted, erect, acuminate; lateral sepals spreading horizontally, much acuminate, with deflexed points, with an incurved, obtuse calcar above the base. *Petals* form a broad base falcato-lanceolate, with many convex, green glands on their inner surface. *Labellum* with a subulate, keeled appendage.

This pretty little Orchid, first noticed in the neighbourhood of Capetown, has recently been sent, by Mr. Hutton, from the Eastern limits of the colony, and it is fair to suppose that it may occur in many unnoticed intermediate stations. It always grows in very moist, spongy places; and like several other tuberous or fleshy-rooted Cape endogens from similar situations (including *Disa grandiflora*), it throws out subterraneous, fleshy runners that form buds at a distance from the parent tuber, thus increasing after the manner of *couch grass*, although not so rapidly. Though its flowers are purple, as in *D. Capensis*, it is less nearly allied in structure to that species than to *D. secunda*, from which, however, it differs in several particulars besides the colour of its flower.

Fig. 1, a plant in flower; *natural* size. Fig. 2, back view of a lateral sepal; 3, front view of the same; 4, petal; 5, side view of labellum and anther; 6, front view of the same; *magnified*.

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149. ERIOSPHÆRA OCULUS CATI, Less. (*Compositæ*.)

E. Oculus Cati, *Less! Syn.*, p. 270 (not of *DC. Prodr.* 6. 166.) *Gnaphalium Oculus Cati, Linn. f. Suppl.* 364. *Gnaphalium Oculus, Thunb.! Cap.* 657.

Hab.—Cape, *Thunberg!* (Herb. Thunb.)

Desc.—*Root* annual, slender, simple. *Stems* branched from the

crown, the central one very short, the lateral long, simple, or trifid, each branch ending in a cluster of flower-heads. *Branches* filiform, cobwebbed, becoming glabrous, laxly leafy. *Leaves* alternate, obovate, or spathulate, obtuse, membranous, loosely woolly, at length sub-glabrate. *Heads* several massed together in terminal glomerules, enveloped in long, curled, woolly, white hairs. *Inv.* scales subbiseriate, completely hidden in their wool. *Flowers* numerous, all perfect, tubular, 5-toothed. *Anthers* with short, bearded, or cloven tails. *Pappus* of a few slender bristles, quite naked for more than half their length, towards the apex bearded with ovoid, swollen, glassy cellules. *Achenia* obovate, minutely granulated.

This curious little plant seems to have escaped the notice of all collectors since *Thunberg's* time. The "*E. Oculus Cati,*" DC., found by *Drege* on Table Mount, proves, on examination, to be identical with *Helichrysum marifolium*, DC., and is very different, generically and specifically, from *Lessing's* plant. To *Lasiopogon micropoides*, DC., figured in our next plate, our plant bears externally the closest resemblance, but is of somewhat stronger growth, and differs essentially in the heads being constantly homogamous, and in the anthers, pappus, and achenium.

All the other species of "*Eriosphæra*" DC., except *E. dubia* (which I cannot distinguish from *Leontonyx squarrosus*) belong to *Helichrysum*. They form, with *H. marifolium* and a few others, a group of *Euhelichrysum*, distinguished by the hairy involucres; a character, however, which they have in common with *H. maritimum* and others of the section *Lepicline*.

Fig. 1, a plant; the ***natural*** size. Fig. 2, flower, with pappus and nearly ripe achenium; 3, apex of style; 4, anther; 5, apex of a pappus-bristle; all ***magnified***.

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150. LASIOPOGON MICROPOIDES, DC. (*Compositæ.*)

L. micropoides : capitulis multifloris, floribus hermaphroditis 20–25, fœmineis 15–18.—*DC. Prodr.* 6, p. 246.

VAR. *a*; totum arachnoideo-lanatum, foliis obovatis spathulatisve.—
L. micropoides, DC.! l. c.

VAR. *β*; caulibus mox glabratis, foliis angustioribus sublinearibus.—
L. molluginoides, DC.! l. c.

HAB.—Little Namaqualand; *a*, between Silver Fontein, Kooperbergen, and Kaus, *Drege!* *β*, near Verleptpram, on the Gariep, *Drege!* Modderfontein, *Rev. A. Whitehead!* (Herb. T. C. D.)

DESCR.—*Root* annual, simple, slender. *Stems* 1–3 inches high, branched from the base, filiform, the branches woolly or glabrate, ending in globose, woolly glomerules of 8-12 heads. *Leaves* 3–5 lines long, 1–2 lines wide, thinly membranous. *Heads* heterogamous, with about 25 perfect, campanulate, 5-toothed central flowers, and 15–18 filiform, marginal female flowers. *Pappus* of many, copiously plumose bristles, the plumes very long. *Achenia* rather coarsely tubercled.

This closely resembles *L. muscoides* of N. Africa, S. Europe, and Central Asia, and which is also found in S. Africa; but has larger flower-heads, and much fewer female flowers in proportion to the perfect ones. I have already noticed its resemblance to *Eriosphæra Oculus Cati.*

From *Helichrysum* and *Gnaphalium* the genus *Lasiopogon* is known by its well-feathered pappus; from *Pterothrix*, if restricted to *P. spinescens*, by habit, and the heterogamous flower-heads. But it is less easily distinguishable from the heterogamous species of *Helipterum*, except indeed by its dwarf habit and annual roots. Still, as none of the Cape *Heliptera* are heterogamous or annual, and as all have conspicuous, and most of them lustrous, radiating involucra, there is practically no difficulty, so far as the Cape Flora is concerned. Other hitherto universally recognised genera of Gnaphaloid Compositæ have equally uncertain limits. Thus the character which divides *Gnaphalium* from *Helichrysum* is in many cases indefinite; nor is there any peculiarity of habit between these genera, if we take all the species of each into consideration. The showy *Helichrysa*, which closely resemble *Heliptera* in aspect, do indeed look different from ordinary *Gnaphalia;* but the small-headed, and especially the annual species of *Helichrysum*, cannot be separated by the eye from *Gnaphalia* of similar habit. Nor were we to limit *Helichrysum* to its homogamous species should we have a more natural group; for species which are otherwise closely similar, differ chiefly one from the other by the presence or absence of female marginal flowers. The same difficulty occurs between *Helichrysum* and *Helipterum;* for, except by the non-plumose pappus, *Helichrysum vestitum* is with difficulty known from some states of *Helipterum speciosissimum;* and many other *Helichrysa* (as *H. sesamoides* and *H. squamosum*) have completely the aspect of *Heliptera*. Were we therefore to reunite *Helichrysum* to *Gnaphalium*, we could hardly retain so purely artificial a group as *Helipterum*. But then, doing so, for consistency' sake, we must go very much further, and bring under one generic group most of the Gnaphaloideæ with discoid flower-heads. For even *Metalasia*, admirably distinguished as it is from *Helichrysum* by foliage and general aspect, and naturally limited as it seems to be, differs structurally from the homogamous species of *Helichrysum* by a character so obscure that no one thinks of looking for it; I mean, the *supposed* stipes and beak of the young ovary, which both disappear in the advancing young fruit! Do none of the species of *Helichrysum* present similar appearances in their immature condition? In *Metalasia*, assuredly, these characters are often invisible; nor is the pappus *always* clavate in that genus; whereas, clavate pappus occurs in several *Helichrysa*. On the whole, we must choose between two evils; either to retain a number of faulty genera, recognisable in one country, but not in others; or, by abolishing these genera and rehabilitating the Linnæan genus *Gnaphalium*, be prepared to deal with a genus of 600 to 700 species, a large number of which must receive new specific names. The former course is the only one open to me at present, in dealing with a local Flora; the latter can only be adopted after the whole group of Gnaphaloideæ shall have been carefully re-examined, and the genera shown to be untenable, whether by floral character or by habit.

Fig. 1, a plant of var. *α*; 2, one of var. *β*; the *natural* size. Fig. 3, a flower, with nearly ripe achenium; 4, corolla of one of the female flowers; 5, stamen; 6, one of the pappus-plumes; *magnified.*

151. BRYOMORPHE ZEYHERI, Harv. (*Compositæ.*)

Gen. Char.—*Capitulum* pluriflorum, heterogamum; fl. radii paucis ligulatis fœmineis, disci hermaphroditis 5-dentatis. *Involucri* squamæ pauciseriatæ, imbricatæ, lineares, discretæ. *Receptaculum* nudum, convexulum. *Antheræ* basi caudatæ. *Styli* rami truncati. *Achenium* glabrum, erostre, sessile. *Pappus* pilosus uniserialis, setis tenuibus rectis scaberulis.

Bryomorphe Zeyheri, Harv.—*Helichrysum aretioides, Turcz. Bull. d. l. soc. imp. Mosc. XXIV. II., p.* 79. *Klenzea lycopodioides, Sch. Bip. in Walp. Rep. Bot. Syst.* 2. *p.* 973.

Hab.—Summits of Table and Hott. Holl. mountains, common, but rarely flowering, *Zeyher!* 2908. Summit of Genadendahl mountain, 5000 f., *Dr. Roser*, 42. (Herb. T. C. D.)

Descr.—*Stems* 1–2 inches high, simple or forked, closely leafy throughout, and densely crowded in compact, level-topped cushion-like tufts or masses. *Leaves* 2 lines long, ½ line wide, linear-lanceolate, acute, closely imbricating, erect, faintly nerved beneath, on both sides silky-silvery. *Heads* at the ends of the branches, sessile, the involucres half or wholly hidden among the uppermost leaves. *Inv. scales* in 2–3 rows, linear-oblong, membrane-edged, with a green midrib and a brown, obtuse, and denticulate apex, caducous, falling with the flowers. *Recept.* nude, convex. *Rays* 4–5, broadly oblong, 3-toothed, white or rosy, shorter than the inv. scales. *Disc-flowers* rosy purple. *Anthers* tailed. *Pappus* uniseriate, of several slender, scabrous, unequal, straight bristles. *Achene* glabrous, sessile.

This curious little plant appears to have been first noticed by Mr. Zeyher, now about forty years ago, as I find by a note preserved in Hb. Hooker. It either flowers but rarely, or at a season when few visit the mountains where it grows, and has thus escaped many a collector who has probably walked over its mossy cushions. The specimens distributed by *Zeyher* were in but poor condition; and Turczanninow, in describing them, overlooked the rays, and consequently referred this plant to *Helichrysum*. My specimens from Dr. Roser are very conspicuously radiate. Schultz (Bip.) places this plant in his genus *Klenzea*, which he founds on two Abyssinian species; one of which is undoubtedly an *Athrixia;* the other (of which I have no perfect flower-heads) looks like a *Helichrysum*.

Fig. 1, part of a tuft; *natural* size. Fig. 2, a flower-head: 3, a leaf; 4, outer and inner inv. scales; 5, receptacle; 6, a ray-flower; 7, a disc-flower; 8, anther; 9, apex of style, from a disc-flower; 10, apex of a pappus-bristle; variously *magnified*.

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152. CHRYSANTHEMUM OSMITOIDES, Harv. (*Compositæ.*)

C. osmitoides : caulibus erectis basi suffruticosis simpliciusculis striato-sulcatis puberulis demum glabratis foliosis, foliis alternis sessilibus lanceolatis acuminatis argute serratis glabris, supremis minoribus subintegris; capitulis breve pedicellatis terminalibus v. 2–3-corymbosis

multifloris, involucri squamis pauciserialibus margine membranaceo-scariosis laceratis, ligulis numerosis albis, disci floribus teretibus 5-dentatis, pappo nullo, acheniis (junioribus) omnibus obovatis compressis 10-costatis.

HAB.—Omgati, Natal, *W. T. Gerrard*, 1026. (Herb. T. C. D.)

DESCR.—*Stems* several from the same root, sub-bulbous and woolly at base, ascending erect, simple or sub-simple, virgate, glabrous or with a few soft hairs, rib-furrowed, 1–2 feet high or more, leafy. *Leaves* alternate, sessile, lanceolate or oblongo-lanceolate, acuminate, sharply serrate, glabrous, the uppermost smaller, sub-entire, of thickish substance, faintly nerved and veined, 1–1½ inch long, 3–4 lines wide. *Heads* terminal, solitary, or 2–3-sub-corymbose, pedicellate. *Inv.* scales in 2–3 rows, with very wide, membranous and torn edges, pale, purplish in the centre, obtuse. *Rays* numerous, white, oblong, obtuse, their tube continuous with the ovary. *Disc-flowers* shortly 5-toothed, terete. *Pappus* none. *Ovaries* compressed, obovate, 10-striate. *Ripe* achenes not seen.

This plant has so much of the habit of *Chrysanthemum leucanthemum*, that I venture to consider it congenerous, although the achenes are as yet unknown. It is quite unlike any of the South African species of *Chrysanthemum* in habit, but strikingly resembles *Osmites dentata*; whence the trivial name. *Mr. Gerrard's* specimens are the only ones I have yet seen.

Fig. 1 flowering stem, in two pieces; the *natural* size. Fig. 2, a ray-flower; 3, disc-flower; 4, apex of disc-corolla, laid open; 5, anther; 6, apex of style from disc-flower; variously *magnified*.

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153. EURYOPS LINEARIS, Harv. (*Compositæ.*)

E. linearis: glaber, foliis linearibus elongatis planis acutis tenuiter uninerviis integerrimis, pedunculis axillaribus foliis subduplo longioribus filiformibus, involucri squamis 10–12 fere ad apicem concretis acutis, acheniis glabris compressis.

HAB.—Cape, *Mundt!* Swellendam, *Dr. Puppe.* (Herb. T. C. D., Hk.)

DESCR.—A small bush, 1–1½ ft. high, with erect subcorymbose branches; glabrous in every part. *Branches* nude and rough with the persistent bases of old leaves below, closely leafy above to the very summits. *Leaves* linear, 1–1½ inch long, ¾–1 line wide, flat, acute, with a slender midnerve, quite entire. *Peduncles* axillary, about twice as long as the leaves, filiform, several towards the ends of the branches. *Inv.* cup-shaped, shortly 10–12 toothed, the scales concrete nearly to the summit. *Rays* 6–8, spreading, longer than the involucre. *Achenes* glabrous.

This was first collected by Mundt, many years ago, and has more recently been sent, probably from the same locality, by Dr. Pappe, whose specimens agree in all respects with those of Mundt. It is nearly

allied to *E. linifolius*, but is readily distinguished by the broader and perfectly *flat* leaves, and the involucral scales consolidated almost to their apices. It is a neat growing bush, and tolerably gay; but inferior in beauty to many of its kindred species.

Fig. 1, a flowering branch; the *natural* size. Fig. 2, a leaf; 3, involucre; 4, corolla of the ray; 5, a disc-flower; 6, lobes of the disc-corolla; 7, anther; 8, apex of style, from a disc-flower; variously *magnified*.

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154. ASTER PETIOLATUS, Harv. (*Compositæ.*)

A. (**Agathæa**) **petiolatus**: caulibus procumbentibus pendulisve elongatis simpliciusculis pubescentibus, foliis alternis sparsis petiolatis ovatis grossè 3–5 dentatis membranaceis venosis punctulatis, pedunculis terminalibus nudis 1-cephalis, inv. squamis sub-biseriatis equalibus pilosis lanceolatis: ovariis puberulis, pappi setis scabris.

Hab.—District of Albert and in Basutu Land, hanging over precipitous rocks, *T. Cooper*, 658 and 727. (Herb. T. C. D.)

Descr.—*Stems*, many from the crown, 2–3 feet long, procumbent or pendulous, simple or slightly branched, pubescent with short spreading hairs, slender. *Leaves* alternate, at intervals of 1–3 inches, distinctly petioled; petiole 1–3 lines long; lamina ovate, coarsely few toothed, $\frac{1}{2}$–$\frac{3}{4}$ inch long, 4–5 lines wide, membranous, veiny, thinly pubescent. *Pedunc.* ending the branches, nude, one-headed. *Inv.* scales biseriate, equal, pilose, lanceolate. *Rays* numerous, oblong, 3–toothed, white or purple. *Achenes* minutely hispidulous. *Pappus* rough, slender, white.

A very remarkable and distinctly characterized species of *Aster*, in general aspect resembling *A. Cymbalariæ*, but easily known from that by its alternate, not opposite leaves. From all the Cape Asters with alternate leaves it may be known by its distinctly petioled leaves, &c. Mr. Cooper describes its long, weak stems hanging down in festoons over the edges of precipices. No other collector seems, as yet, to have met with it.

Fig. 1, a flowering branch; the *natural* size. Fig. 2, a disc-flower; 3, apex of its style; 4, a corolla of the ray; 5, achene and pappus; 5, apex of pappus-bristle; variously *magnified*.

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155. LITOGYNE GLABRA, Harv. (*Compositæ.*)

Gen. Char.—*Capitulum* hetero-monoicum, multiflorum, discoideum; floribus marginalibus filiformibus 3-dentatis fœmineis pluriseriatis; centralibis masculis, 5-dentatis. *Involucrum* imbricatum, squamis acutis pluriseriatis. *Receptaculum* nudum, depressum. *Pappus* nullus. Masc: *Antheræ* lineares, semi-exsertæ, basi acutæ. *Stylus* simplex, longe exsertus, hispidus. *Ovarium* abortivum. Fœm.: *Antheræ* nullæ. *Stylus* exsertus, bifidus, ramis filiformibus glabris. *Ovarium* glabrum, ovuliferum. *Achenium* (non visum).

L. glabra: glabra, lævis. *Ethulia? Gariepina, D. C. Prodr.* 5, *p.* 13.

Hab.—On the Gariep *Drege!* Namaqualand, *A. Wyley!* (Herb. T. C. D.)

Descr.—*Stem* rigid, suffruticose at base, 1–2 feet high, cymoso-corymbose, glabrous; branches spreading, laxly leafy, ending in a few short-pedicelled or subsessile, corymbulose heads. *Leaves* linear or oblongo-linear, acute, entire or remotely denticulate, one-nerved, dotted, smooth, $\frac{3}{4}$–$1\frac{1}{2}$ inch long, 1–$1\frac{1}{2}$ line wide, decurrent as a narrow wing to the stem. *Heads* corymbose or subfascicled, 3–8 together, many-flowered. Inv. scales closely imbricate in several rows, acute, mucronulate, membrane edged, glabrous, pale. *Fem. flowers* in very many rows, with exceedingly slender, filiform, 3-toothed corollas. *Male flowers* few, with funnel-shaped corollas, granulated on the lobes. *Style* in the male flower very long, hispid, quite simple. *Ovary* glabrous. *Achenes* not known.

De Candolle could hardly have examined a flower-head of this little weedy plant, or he would not have placed it in *Ethulia*, from which genus its very numerous, filiform marginal flowers and abortive disc-flowers generically separate it. The achene, at present unknown, may afford a further distinction. Sonder's *Ethulia alata* (our *Litogyne scabra*) is a second species, or variety; only to be known from *L. glabra* by its rough surface. In both the stems and branches are equally winged by the decurrent leaves.

Fig. 1, portion of a plant, in flower; the *natural* size. Fig. 2, a flower head; 3, female marginal flower; 4, apex of its corolla; 5, male central flower; 6, lobes of its corolla, laid open; 7, anther; 8, pollen; variously *magnified*.

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156. VERNONIA STAHELINOIDES, Harv. (*Compositæ.*)

V. stahelinoides: suffruticosa, paniculatim ramosa; ramis rigidis striatis, pedunculis foliisque adpresse pubescentibus subcanescentibus; foliis sessilibus anguste-linearibus obtusis subtus uninerviis marginibus revolutis, capitulis solitariis terminalibus v. axillaribus pedunculatis 10-floris; inv. oblongi squamis sericeis demum glabratis adpressis, exterioribus rotundatis ovatisve obtusis, interioribus oblongis subacutis mucronatis; acheniis minute pubescentibus.

Hab. Magalisberg and Crocodile River, *Burke & Zeyher! Zey.* 1027. (Herb. T. C. D.)

Descr.—Suffruticose, rigid, slender, the whole plant thinly canescent, with minute, close-pressed hairs. *Stems* corymbosely much branched, the branches straight, very erect, ribstriate, leafy throughout. *Leaves* scattered, narrow linear, obtuse, sessile, with revolute margins, 1–$1\frac{1}{4}$ inch long, $\frac{1}{2}$-line wide, spreading. *Pedunc.* terminal or axillary, 1-headed, 1–2 inches long, slender, nude. *Heads* oblong, 6–7 lines long, 2–3 lines wide. *Inv.* scales pale brown, close lying, thinly silky or cobwebby, becoming nude, woolly at edge, oblong, obtuse. *Achenes* ribbed, minutely pubescent.

This is a very singular *Vernonia*, with a habit quite unlike that of most others of this extensive and diversified genus, and is much more like a *Pteronia*, in all but generic character. Its rigid, wiry stems, slender leaves, and canous, close-lying pubescence, suggest that it grows in

dry, exposed places; but there is nothing stunted in its aspect. The involucre is long, in proportion to its diameter, and resembles that of a *Stæhelina*.

Fig. 1. Part of a plant in flower; the *natural* size. Fig. 2, a corolla; 3, style and stigmas; 4, achene, with its pappus; 5, apex of a pappus-bristle; variously *magnified*.

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157. VERNONIA GERRARDI, Harv. (*Compositæ.*)

V. Gerrardi: herbacea, basi ramosa; ramis simplicibus striato-sulcatis punctatis glaucis foliosis, foliis sessilibus linearibus acutis uninerviis punctatis planis glabris, capitulis solitariis terminalibus pedunculatis multifloris, inv. squamis lanceolatis cuspidato-acuminatis squarrosis arachnoideis lanato-ciliatis; acheniis costatis sericeis.

Hab.—Bigarsberg, Zululand, *W. T. Gerrard*, 1060, Dec. (Herb. T. C. D.)

Descr.—*Stem* 1–2 feet high, herbaceous, branched from the base or lower half; branches erect, flexuous, ribbed and furrowed, dotted, glabrous and glaucous, ending in nude or sparsely scaly, one-headed peduncles. *Leaves* 1–1½ inch long, ¾–1 line wide, linear-acuminate, one-nerved, flat, thickish, dotted, sessile; the upper ones gradually shorter. *Pedunc.* 2–4 inches long. *Heads* many flowered. *Inv.* ¾-inch long, 1 inch diameter; its scales with long, spreading, attenuate, squarrose points. *Flowers* "whitish" (*Gerr.*) *Achenes* densely silky.

I have much pleasure in naming this fine species after Mr. Gerrard, its discoverer, to whose researches in Zululand natural science already owes much, and to whom I am personally indebted for a very large number of plants, including many new and interesting species. The general aspect is similar to that of *V. Vernonella* and *V. monocephala*, but the involucre and other characters abundantly distinguish it. The involucre, indeed, is more like that of an *Athrixia* than of an ordinary *Vernonia*.

Fig. 1. Part of a plant in flower; the *natural* size. Fig. 2, a corolla; 3, apex of style; 4, anther; 5, achene, with pappus; variously *magnified*.

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158. PRINTZIA HUTTONI, Harv. (*Compositæ.*)

P. Huttoni: caule diffuse ramosa subscandente, ramis flexuosis teretibus scabro-puberulis, foliis alternis petiolatis oblongo-lanceolatis membranaceis penninerviis utrinque scaberulis distanter denticulatis, petiolo basi auriculato amplexicauli, capitulis ramos ramulosque terminantibus solitariis breve pedicellatis, inv. squamis pallidis acuminatis pubescentibus, ligulis perbrevibus cochleariformibus, pappo paucisetoso, acheniis hispidulis.

Hab.—Katberg, *H. Hutton*. (Herb. T. C. D.)

Descr.—Apparently a tall, scrambling or half-climbing, slender shrub. *Branches* long, flexuous, alternately decompound, terete, pale,

rough with minute, rigid hairs. *Leaves* at intervals of 1–2 inches, alternate, with a $\frac{1}{4}$–$\frac{1}{2}$ inch long petiole, which is ear-clasping at base; the lamina 2–3 inches long, $\frac{3}{4}$–1 inch wide, broadly lanceolate, acute at each end, denticulate, both sides rough with minute hairs, the lower surface rather paler. *Heads* ending the branches, and also on short, axillary, few-leaved twigs, many flowered. *Inv.* pale, pubescent, 2–3-seriate, of many, subulate, pubescent scales. *Rays* spoonshaped, scarcely exserted, and much shorter than their own styles. *Pappus* subuniseriate, of unequal, rough bristles. *Flowers* seemingly white.

This is one of many interesting species sent to me from the Katberg by Mr. Henry Hutton. It is strange that so conspicuous a plant should have escaped the notice of Ecklon, Drege, and other laborious explorers of the Katberg Mountains; but it shows how much still remains to be done in districts which are comparatively well known. In foliage it has some resemblance to *P. pyrifolia*, but differs remarkably in habit and in the flower-heads; more particularly in the very short, spoon-shaped ray-flowers, and the deficient pappus. These latter differences seem to be specific rather than generic.

Fig. 1. Part of a flowering branch; the *natural* size. Fig. 2, a ray-flower; 3, its spoon-shaped ligule, front view; 4, disc-flower; 5, stamen; 6, apex of style of disc-flower; 7, apex of a pappus-bristle; variously *magnified*.

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159. CYPHIA PERSICIFOLIA, Presl. (*Campanulaceæ.*)

C. persicifolia: glabra, caule erecto simplici angulato, foliis sessilibus erectis lineari-lanceolatis subacutis rigidis margine revolutis remotè serrulatis, spicâ basi nudiusculâ multiflorâ, floribus subsessilibus, pedicellis bracteâ lanceolato-acuminatâ utrinque pauci-dentatâ 2–3-plo brevioribus apice bracteolatis, lobis calycinis lanceolato-acuminatis serratis erectis tubo turbinato longioribus petalis 4-plo brevioribus, antheris glabris.—*A. DC. in DC. Prodr.* 7, *p.* 498.

Hab.—Eastern districts and Caffraria. Near Morley, *Drege.* Beyond the Key, *H. Bowker! Mrs. F. W. Barber*, 30. (Herb. T. C. D.)

Descr.—*Root* tuberous. *Stem* erect, 12-18 inches high, closely leafy in the lower half, the upper leaves gradually smaller, and ending in scales. All parts glabrous. *Leaves* $1\frac{1}{2}$–$2\frac{1}{2}$ inches long, 2–4 lines wide, broad based, quite sessile, linear lanceolate, with revolute margins, remotely denticulate; the uppermost narrower and more acuminate. *Spike* slender, laxly many-flowered, subpedunculate. *Bracts* subulate, few-toothed, shorter than the calyx. *Calycine* lobes much shorter than the nearly equally lipped corolla, serrulate, nerved. *Filaments* broad-based, pubescent above the middle; anthers quite glabrous.

A graceful species, not uncommon, perhaps, on the eastern frontier and the neighbouring districts of Cafferland. My drawing is made from some of Mr. Bowker's excellently prepared specimens. The dorsally glabrous anthers are of rare occurrence in *Cyphia*.

Fig. 1. Base of stem; 2, spike; the *natural* size. Fig. 3, a flower; 4, front view of stamen; 5, back view of anther; 6, stigma; variously *magnified*.

160. CYPHIA ELATA, Harv. (*Campanulaceæ.*)

C. elata: pubescens v. glabra, caule erecto elato simplici tereti, foliis sessilibus erectis oblongo-lanceolatis acutis acuminatisve rigidiusculis margine vix revolutis denticulatis, spicâ foliosâ cylindraceâ compositâ, floribus fasciculatis v. racemulosis bracteâ foliosâ sub-brevioribus, lobis calycinis inciso-dentatis v. subpinnatifidis petalis vix duplo brevioribus, antheris dorso hispidis.

Var. *α*, pubescens.

Var. *β*, glabra.

Hab. *α*, Draakensberg, Orange Free State, *T. Cooper*, 1087. *β*. Zululand, Natal, *Gerrard & M'Ken*, 1462. (Herb. T. C. D.)

Descr.—*Root?* *Stem* 3–4 feet high, robust, rigid, round, either glabrous or more or less pubescent, leafy throughout, and ending in a leafy, thyrsoid spike. *Leaves* 2–3 inches long, $\frac{1}{2}$–$\frac{3}{4}$ inch wide, sessile, erect, penninerved and veiny, oblong-lanceolate or lanceolate, glabrous or pubescent, the uppermost shorter and narrower, passing into bracts at the inflorescence. *Bracts* leaflike, longer than the flowers. *Flowers*, three, four, or more together, in small tufts or short racemes in the axils of the bracts, subsessile, bracteolate at base. *Calyx*-tube shortly turbinate; lobes lanceolate, deeply incised or pinnatifid, two-thirds as long as corolla. *Petals* narrow, subequal, erect, with recurved, channelled points. *Filaments* hairy; anthers dorsally hispid.

This, with the exception, perhaps, of *C. Gerrardi* (an unpublished species) is the tallest and most robust of the genus, having the aspect of some coarse-growing, virgate species of *Campanula*. Except in pubescence, which varies in amount in different individuals, Mr. Cooper's and Messrs. Gerrard and M'Ken's plants agree. The calycine lobes are remarkably deeply cut, or even pinnatifid.

Fig. 1, lower part of stem; 2, upper part and compound spike; the *natural* size. Fig. 3, a flower; 4, the three upper petals; 5, a lower petal; 6, back view of stamen; 7, front view of same; variously *magnified*.

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161. CYPHIA CORYLIFOLIA, Harv. (*Campanulaceæ.*)

C. corylifolia: caule volubili pubescente, foliis sparsis breve petiolatis ovatis v. orbicularibus acuminatis basi cuneatis serratis glabris subtus pallidioribus, superioribus minoribus, supremis squamæformibus, floribus axillaribus fasciculatis subsessilibus, supremis in racemum spurium dispositis, lobis calycinis utrinque uni-dentatis subulatis petalis duplo brevioribus, antheris dorso hispidis.

Hab.—Ingoma, Natal, Feb., *Gerrard and M'Ken*, 1465. (Herb. T. C. D.)

Descr.—*Stem* 4–6 feet high, climbing among bushes, 4-angled, minutely pubescent. *Leaves* 2–4 inches apart, on a short, cuneate petiole, broadly ovate or subrotund, acuminate, sharply and unequally toothed, nearly or quite glabrous, pale and veiny on the under side, 1–1$\frac{1}{4}$ inch long, 1 inch broad, the upper ones gradually smaller, and diminishing to bracts or scales. *Flowers* in minute cymules, tufted in

the axils of the upper leaves, and of the scales or bracts which represent the uppermost, 2–3–6 together, on very short pedicels. *Calyx*-tube obconic, ribbed, not half as long as the lobes. *Corolla* ringent, the 3 upper petals cohering, erect; 2 lower subulate, deflexed. *Filaments* hairy; also the connective, at back.

A pretty plant, easily distinguished from all the scandent species of *Cyphia* by its very broad leaves, resembling in shape those of the common Hazel-nut.

Fig. 1, Part of a climbing stem, in flower, the *natural* size. Fig. 2, a flower; 3, calyx and ovary; 4, stamen, front view; 5, anther, back view; 6, cross cut of ovary; 7, stigma; variously *magnified*.

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162. LOBELIA CYPHIOIDES, Harv. (*Campanulaceæ.*)

L. cyphioides : foliis radicalibus oblongo-obovatis obtusis basi in petiolo brevi angustatis membranaceis subtus pallidioribus utrinque tenuiter pubescentibus subrepandis v. obsolete crenulatis, caule florifero unifoliato in racemum multiflorum desinente, bracteis subulatis pedicello vix longioribus, floribus brevissime pedicellatis, calycis tubo turbinato glabro, lobis subulatis tubo duplo longioribus, antheribus 2-inferioribus solum apice barbellatis.

Hab.—Cape, *Lahaie*. (Herb. T. C. D., comm. Cl. *Delessert!*)

Descr.—*Root* fibrous, perennial. *Radical* leaves numerous, rosulate, 2–3 inches long, 1–1½ wide, of thin substance, pale or glaucous beneath, minutely pubescent on each side, oblong-obovate, obtuse, obsoletely crenulate. *Stem* scapelike, nude or with a single leaf about its middle, slender, ending in a lax, many-flowered raceme. *Bracts* 1–2 lines long. *Flowers* on very short pedicels. *Calyx* tube topshaped, glabrous; its lobes subulate, twice as long. *Corolla* 3 lines long, white ? (or blue ?), the 3 lower lobes lanceolate, undulate. Two *stamens* only hispidulous at top.

Of this plant, which seems to be distinctly characterized, I have as yet only seen a single specimen, which came to me, through the late Count Limingan, from Herb. Delessert, under the name "*Cyphia phyteuma*, W.;" a name hastily given by the curator of the herbarium, no doubt without examination. I cannot find any similar species among the many South African *Lobeliæ* known to me, nor do I recognise it in any of those described by De Candolle. Is it really, as stated, a native of the Cape Colony? If so, I hope some of my obliging correspondents may ascertain its locality, and furnish us with additional specimens.

Fig 1, a plant, in flower; the *natural* size. Fig. 2, a flower; 3, corolla laid open; 4, stamens; variously *magnified*.

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163. SCHREBERA SAUNDERSIÆ, Harv. (*Jasminaceæ.*)

S. Saundersiæ : petiolo angustè alato, foliolis bijugis sessilibus oblongo-lanceolatis basi vix obliquis obtuse acuminatis, calyce glaberrimo truncato v. minute denticulato.

HAB.—Tongaat, Natal, *Mrs. Saunders!* Umcomas, *M'Ken!* Common on the Tugela, *Gerrard!* (Herb. T. C. D.)

DESCR.—A large, partly scandent shrub or small tree, glabrous in all parts. *Leaves* opposite, impari-pinnate, with 2 pair of leaflets. Common *petiole* more or less evidently wing-margined. *Leaflets* $1\frac{1}{2}$–2 inches long, nearly equal sided at base, $\frac{3}{4}$–1 inch wide, the terminal larger, all of subcoriaceous texture, netted veined beneath, obtuse or bluntly acuminate. *Cyme* trichotomous, long-peduncled, many flowered; bracts 2–3 lines long, deciduous. *Pedicels* equalling the bracts, spreading. *Calyx* $1\frac{1}{2}$ line long, cupshaped, either quite entire or denticulate, at length spreading. *Corolla* tube 4 times longer than the calyx; lobes commonly 6, obtuse, white, with velvety, dark purple patches at base, forming a star in the centre of the flower. *Stamens* exserted. *Capsule* very thick and woody, obovate, loculicidal, splitting into two boat-shaped valves, and tearing the parallel septum into two halves. *Seeds* with a long, cultrate or oblong wing.

This beautiful shrub appears to have been first found, some four or five years ago, by Mrs. Saunders, of Natal, a lady to whom I am indebted for some interesting botanical information, and to whom I have great pleasure in dedicating the species. My best specimens, here figured, I owe however, to my often mentioned friend, Mr. Gerrard, who gathered them on the Tugela. Mrs. Saunders describes the flowers as fragrant, "each blossom embellished with a dark, velvety ring round the throat of the corolla;" and as they are borne plentifully at the ends of the branches, the general aspect must be very ornamental. Mrs. Saunders, though she could not satisfy herself to what Order this shrub belongs, rightly determined it to be "allied to the olives." Its flowers and foliage are those of a Jasmine; its fruit and winged seeds not unlike those of *Syringa*. The only other known species of *Schrebera* is a native of India.

Fig. 1, apex of a flowering branch; 2, a capsule; 3, seeds; the *natural* size. Fig. 4, a flower; 5, one of the corolla-lobes; 6, ovary, style, and stigma; variously *magnified*.

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164. STRYCHNOS ATHERSTONEI, Harv. (*Loganiaceæ.*)

S. Atherstonei: arborea, glaberrima, inermis, ramulis compressiusculis pallidis, foliis ovatis v. ovato-oblongis subcoriaceis margine reflexis supra nitidis obtuse acuminatis basi subacutis breve petiolatis, cymulis racemulosis paucifloris v. trifloris folio brevioribus, floribus pedicellatis, corollæ lobis tubo longioribus intus barbatis demum revolutis, staminibus exsertis, filamentis subulatis. *Atherstonea decussata, Pappe! Sylv. Cap. Ed.* 2, *p.* 29. *Strychnos Baculum, Harv. in Herb. T. C. D., MSS.*

HAB.—Thickets and forests in Uitenhage; Olifants Hoek, and elsewhere in the Eastern Province, *Pappe.* On the Kowiè, *Dr. Atherstone!* Near D'Urban, Natal, *Gerrard and M'Ken*, 847. (Herb. T. C. D.)

DESCR.—A tree 20–25 feet high, 1–$1\frac{1}{2}$ feet diameter. *Branches* and

twigs decussate; the smaller twigs compressed, knotted by the persistent, prominent leaf-bases. *Leaves* 1–1½ inch long, ½ inch wide, variable in shape, but commonly ovate, 3-nerved, coriaceous, with recurved margin, blunt. *Cymules* 3–5 flowered, shorter than the leaves. *Flowers* greenish. *Corolla* with a short tube and spreading, 5-lobed limb, valvate in æstivation; the lobes hairy within, and callous-pointed. *Stamens* inserted in the throat, exserted, the filaments half as long as the corolla-lobes, subulate, slender. *Ovary* 2-celled, with several ovules in each cell. *Berry* one-seeded, the size of a cherry, globose. *Seeds* peltate, subcompressed, glabrous.

This tree, which furnishes the celebrated *Kajaten wood* of the Eastern Colonists, has been already described and published by Dr. Pappe, who regarded it as the type of a distinct genus, which he named *Atherstonea*, in honour of Dr. W. G. Atherstone, of Grahamstown. I much regret that, after a most careful examination of flower and fruit, I cannot find any tangible characters, either in floral structure or in habit, on which to found a genus, distinct from *Strychnos*. The only apparent characters are the exserted stamens and the one-seeded berries; but different species of *Strychnos* have slightly exserted stamens, and several have few or one-seeded berries. Before I was aware what Dr. Pappe's "*Atherstonea*" was, I had received specimens from Messrs. Gerrard and M'Ken, who told me that it was the "*King's tree*" of the Zulu-Caffirs whose chiefs' sticks of ceremony are made of its twigs. This suggested to me the name *S. Baculum;* under which I have had it for some time in the Herbarium. I am indebted to Dr. Atherstone for numerous specimens, in every stage of growth.

Fig. 1, a flowering branch; 10, a berry; 11, a seed; all the *natural* size. Fig. 2, a flower bud; 3, an open flower; 4, the same, in a later stage; 5, corolla laid open; 6, a stamen; 7, ovary, in the calyx; 8, longitudinal section of ovary; 9, transverse section; variously *magnified*.

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165. AGATHOSMA OWANII, Harv. and Sond. (*Rutaceæ*.)

A. Owanii: erecta, ramosissima, ramulis puberulis; foliis erectis linearibus subacutis canaliculatis subtus obtuse carinatis glaberrimis, floribus umbellatis, pedicellis puberulis, calycis lobis subulatis acutis, petalis calyce subduplo longioribus lanceolatis basi cuneatis brevissime unguiculatis, staminodiis sepalis longioribus lanceolatis ciliolatis apice glanduliferis, ovariis styloque glabris.

Hab.—Near Grahamstown, *Peter Mac Owan*. (Herb. T. C. D.)

Descr.—A much-branched, erect, small, level-topped bush, glabrous except the minutely pubescent twigs and pedicels. *Leaves* minutely petioled, 3–4 lines long, not ½ line wide, linear or linear-subulate, subacute, concave above, bluntly keeled beneath, with minute, inconspicuous pellucid dots. *Flowers* in terminal umbels, purple. *Pedicels* about twice as long as the leaves. *Calyx* lobes 1½ lines long. *Petals* 3 lines long, with a short, cuneate claw passing gradually into the

lanceolate limb. *Fertile* stamens exserted, glabrous: *Staminodia* half as long as the petals, linear-lanceolate, ciliolate, tipped with a green gland. *Ovary* and style glabrous.

After having so recently described 100 species of *Agathosma*, in "Flora Capensis," it is certainly a surprise to Dr. Sonder and myself to receive, from the well trodden hills about Grahamstown a species differing from any of those previously known to us. Dr. Sonder, who has carefully compared it with those in his herbarium, tells me that, while it agrees in the short claws of its petals with *A. nigra* and *A. chortophila*, forming with them a passage from *Euagathosma* to *Barosmopetalæ*, it differs by other essential characters from these and all others known to him. It is with pleasure, therefore, that we give it the name of our excellent correspondent, Mr. Mac Owan, who is diligently investigating the plants of the Eastern Frontier, and from whom much more may be expected.

Fig. 1, Flowering branch; the *natural* size. Fig. 2, a leaf; 3, a flower; 4, petal; 5, staminodium; 6, stamen; 7, ovary and style; variously *magnified*.

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166. HELIOPHILA SCANDENS, Harv. (*Cruciferæ.*)

H. (Lanceolaria) scandens: glaberrima; caule suffruticoso scandenti, foliis lanceolatis utrinque acuminatis in petiolo brevi attenuatis sub-penninerviis, racemo brevi corymbuloso, pedicellis calyce longioribus, petalis oblongo-obovatis, filamentis simplicibus, siliculis monospermis oblongis v. oblongo-lanceolatis planis tenuiter venulosis.

Hab.—Back Beach, in shady places, among shrubs, D'Urban, Natal, *M. J. M'Ken*, Aug., 1862. Natal, *T. Cooper*, 1268. (Herb. T. C. D.)

Descr.—"*Stem* 6–8 feet long, climbing through bushes," voluble. *Leaves* $1\frac{1}{2}$–2 inches long, $\frac{1}{4}$–$\frac{1}{2}$ inch wide, lanceolate or ovato-lanceolate, somewhat glaucous, coriaceous, with immersed veins, midribbed and penninerved. *Raceme* 10–15-flowered, corymbose at first, lengthening in fruit. *Pedicels* slender, $\frac{1}{2}$ inch long. *Flowers* white or pinkish. *Pods* oblong, or lanceolate-oblong, 1–$1\frac{1}{4}$ inch long, 4 lines wide, flattened, the valves delicately veiny. *Seeds* solitary.

A very elegant and distinctly marked species of *Heliophila*, of the section "Lanceolaria," differing from all other known species of the genus, and from most Cruciferæ, by its twining stems. My first specimens were received from Mr. M'Ken, who finds it in several spots near D'Urban: those from Mr. Cooper come probably from the same locality.

Fig. 1, flowering apex of stem; 2, pods; the *natural* size. Fig. 3, a sepal; 4, petal; 5, stamens, in position, surrounding ovary; 6, a stamen; 7, ovary; *magnified*.

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167. MODECCA HASTATA, Harv. (*Passifloreæ.*)

M. hastata: caule fruticoso flexuoso scandente striato; foliis petiolatis hastatis cordatisve acutis coriaceis glabris glaucescentibus basi

glandulosis, stipulis minimis dentiformibus, racemis paucifloris cirrhiferis, cirrho simplici; *marium* calyce infundibuliformi petalisque lanceolatis ciliatis, *fœminarum* calyce turbinato petalisque subulatis integerrimis.

HAB.—Mooa and Tugela Rivers, *W. T. Gerrard*, 1199. (Herb. T. C. D.)

DESCR.—"A strong-growing climber, with branches 8 feet long or more;" the stem angle-striate, flexuous. *Leaves* petiolate; the petiole $\frac{1}{2}$–1 inch long, with a pair of small, tooth-like, deciduous stipules at base, lamina $1\frac{1}{2}$–2 inches long, varying from hastate to cordate, leathery, thickish, rigid when dry, pale glaucous green. *Pedunc.*, in both sexes, uncial, bearing 2–3 sessile flowers, and prolonged into a simple tendril. MALE: *calyx* funnel-shaped, $\frac{3}{4}$ inch long, 2 lines wide at top, shortly 5-lobed, the lobes ovate with inflexed edges, 3 of them ciliate. *Petals* about the middle of the calyx tube, lanceolate, ciliate. A circle of tufted hairs outside the stamens near the base of the tube, and behind the stamens 5 pits, in each of which is imbedded a linear gland! *Stamens* 5. FEMALE: *Calyx* obconical, 3–4 lines long, three of its lobes (as in the male) toothed. *Petals* narrow, subulate, quite entire. A ring of hairs and five abortive stamens. *Ovary* shortly pedicelled, one-celled, with 3 placenta; stigmata 3, fimbriate. *Fruit* as large as an egg, pulpy.

A well-marked species, very different from any known South African *Modecca*, remarkable for its foliage, for the unequally ciliate calycine teeth, and for the dissimilar petals of male and female flowers. The fruit is said to be edible, and to resemble that of the common Granadilla.

Fig. 1, flowering-branch of the male; *natural* size. Fig 2, a flower; 3, the same laid open; 4, a petal; 5, a stamen; *magnified*. Fig. 6, branch of the female; the *natural* size. Fig. 7, flower laid open; 8, petal; 9, pistil; 10, cross section of ovary; *magnified*.

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168. CASSINOPSIS TINIFOLIA, Harv. (*Aquifoliaceæ.*)

C. tinifolia: inermis; foliis oblongo-ovatis obtuse acuminatis penninerviis integerrimis, cymis longè pedunculatis dichotomis multifloris.

HAB.—Natal and Zululand, *Gerrard and M'Ken*, 1458, 1509. (Herb. T. C. D.)

DESCR.—A large shrub, or low tree, glabrous in all parts except on the young shoots, half-grown leaves, and flowers. Twigs somewhat four-angled. *Leaves* opposite, on short petioles, ovate-oblong or elliptical, bluntly acuminate, 2–$2\frac{1}{2}$ inches long, $1\frac{1}{2}$ inch wide, dark green and glossy above, paler and penninerved beneath, with slightly revolute, quite entire margins. *Pedunc.* axillary, filiform, $1\frac{1}{2}$ inch long, bearing a much-branched, forking cyme, often 2 inches across. *Flowers* minute. *Calyx* puberulous. *Corolla* "full white," small, with 5 blunt lobes. *Ovary* one-celled, with 2 superposed ovules and a simple style.

Dr. Sonder (*Fl. Cap.* i., p. 473) founded the genus *Cassinopsis* on a

shrub with spiniferous twigs, and small, serrated leaves, found in the Eastern Districts of the Cape Colony, in Caffraria and Natal, and which had previously been referred to *Hartogia* and to *Cassine*, from both which genera it essentially differs. I have now the pleasure of adding a well-marked new species, with foliage resembling that of *Viburnum Tinus*, unarmed twigs, and copiously branched cymes. In floral characters our plant quite accords with *C. Capensis*, Sond.

Fig. 1, a branch in flower; the *natural* size. Fig. 2, calyx laid open; 3, corolla, similarly opened; 4, a stamen; 5, the ovary, cut vertically, to show the ovules; *magnified.*

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169. ANTIDESMA VENOSUM, E. Mey. (*Antidesmeæ.*)

A. venosum: ramis molliter fulvo-tomentosis tandemque glabratis, foliis latè elliptico-oblongis abrupte breviterque acuminatis vix acutis basi rotundatis a tergo et in venis paginæ superioris fulvo-tomentosis, floribus (masculis) 3–4–meris stipatis spicatis aut spicato-paniculatis, calyce intus maxime piloso, disco ovariique rudimento glaberrimo. *Tulasne, in Ann. Sc. Nat. (Bot.) Ser.* 3, *vol.* 15, *p.* 232. *A Natalensis, Harv. in Herb.*

Hab.—Natal, *T. Williamson*, (1838), *Drege*, (1839), *Krauss* (1840), No. 138. *R. W. Plant* (1851), No. 25. *Gerrard and M'Ken* (1861), No. 296. *T. Cooper* (1862), No. 1230. (Herb. T. C. D.)

Descr.—A large shrub or tree. Young twigs, petioles, veins of the leaves, and inflorescence dotted with short, fulvous hairs. *Leaves* on very short petioles, 2–3 inches long, $1\frac{1}{2}$–$2\frac{1}{2}$ inches wide, the young ones pubescent on both sides, the older glabrate above, paler, or rufescent and penninerved beneath. The shape varies from oblong to elliptical, or ovate, the apex is either bluntly acuminate or very obtuse, and even rounded. *Spikes* terminal, or from the axils of the upper leaves, long, slender, foxy, many flowered. *Calyx* commonly 3-parted. *Stamens* 3, long, exserted glabrous. *Berries* dark red, one-seeded, glabrous.

This shrub, the only species of *Antidesma* found as yet in South Africa, seems to be common in Natal, from whence I received it twenty-six years ago. I had named it "*Natalensis*" in Hb., and that name has inadvertently crept into our plate.

Fig. 1, a flowering twig; the *natural* size. Fig. 1, a flower; 3, apex of a stamen; 4, berry; 5, the same cut open; 6, embryo, variously *magnified.*

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170. UROPETALUM CILIARE, E. and Z. (*Liliaceæ.*)

U. ciliare: foliis pluribus planiusculis striatis attenuatis flexuosis demum spiraliter tortis rigide ciliatis, racemo erecto plurifloro, bracteis reflexis acuminatis pedicello sublongioribus, perianthii lobis interioribus latioribus subundulatis, exterioribus vix mucronatis.

Hab.—Fields near the Zwart Kops R., *E. and Z.!* Districts of Cradock and Queenstown, *T. Cooper*, 493, 474. (Herb. T. C. D.)

Descr.—*Bulb* not seen. *Leaves* 4–8, subulate-attenuate, 3–4 inches long, 1–2 lines wide, tapering to a fine point, ciliate, finely striate, flattish or channelled, spreading or reflexed, curved or spirally twisted, grass-green. *Scape* 6–12 inches high, 6–10 flowered. *Raceme* lax; *bracts* membranous, lanceolate, 2–3 lines long. *Flowers* erecto-patent? *Perianth* $\frac{3}{4}$ inch long, $1\frac{1}{2}$ lines diameter, brownish-green, its lobes of nearly equal length; *inner* semi-lanceolate, slightly undulate, subacute; *outer* much narrower, mucronulate; all with thick ribs and membranous edges.

This little plant was distributed by E. and Z. under the MSS. name *U. ciliare:* I cannot find that it has been any where described. Possibly it may be the "*U. crispum*" of Burchell, also, so far as I know, undescribed. It is well characterized by its foliage, and the very short mucrons of the outer lobes of the perianth.

Fig. 1, a plant in flower; the *natural* size. Fig. 2, perianth, laid open; 3, a stamen; 4, pistil; 5, one of the placentæ, bearing many ovules; *magnified.*

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171. DISPERIS FANNINIÆ, Harv. (*Orchideæ.*)

D. Fanniniæ: glabra, caule 3–4 foliato stramineo, foliis basi cordato-amplexicaulibus lanceolatis v. ovato-lanceolatis acuminatis tenuibus venulosis, spicâ pluriflorâ subsecunda, bracteis foliis conformibus, sepalis lateralibus patentibus latè unguiculatis saccatis acuminatis, postico cucullato cum petalis cuspidatis hinc valde undulatis in galeam cohærente, labello mutico? concavo sigmoideo-lanceolato acuminato.

Hab.—Dargle Farm, Natal, *Mrs. G. Fannin*, 88. Draakensberg, Orange State, in woods, *T. Cooper*, 1092. (Herb. T. C. D.)

Descr.—Terrestrial. *Stem* 5-15 inches high, pale green, or straw colour, weak, bearing 3–4 distant leaves. *Leaves* 2–$2\frac{1}{2}$ inches long, $\frac{1}{2}$–$1\frac{1}{2}$ inch wide at base, cordate-amplexicaul, tapering to an acute point, flat, thin and membranous, veiny. *Flowers* 1–4 in a leafy spike; the bracts like the leaves, but smaller. *Perianth* pure white, with a purple tinge, and purple raised dots on the petals. *Galea* much inflated, the petals with the front margin strongly waved, apex cuspidate. *Lateral sepals* saccate in the middle, much acuminate. *Labellum* not perfectly seen.

Among the many curious forms found in the genus *Disperis* few are more remarkable than this delicate and fragile species, which I have great pleasure in naming after its discoverer, Mrs. George Fannin, to whom I am indebted for specimens and a coloured drawing. As yet I have seen but few specimens; and in the flower which I sacrificed for analysis, the labellum was torn across; its perfect form, therefore, remains a desideratum.

Fig. 1, a plant; the *natural* size. Fig. 2, perianth; 3, side view of same; 4, a petal; 5, 6, back and front views of the lateral sepal; 7, fragment of labellum; *magnified.*

172. DISPERIS COOPERI, Harv. (*Orchideæ.*)

D. Cooperi: puberula v. glabrescens, caule folioso elato, foliis vaginato-amplexicaulibus erectis ovato-lanceolatis acuminatis complicatis rigidulis, spicâ multiflorâ subsecundâ, bracteis folio conformibus, sepalis lateralibus deflexis saccatis breviter acuminatis, postico cucullato cum petalis obtusissimis hinc valde undulatis in galeam cohærente, labello mutico postice acuminato canaliculato, antice cordato papillato.

Hab.—Orange Free State, *T. Cooper*, 1100. Dargle Farm, Natal, *Mrs. G. Funnin*, 91. (Herb. T. C. D.)

Descr.—Terrestrial. *Stem* robust, 12–18 inches high, green, more or less pubescent. *Leaves* several, 1–1½ inch long, clasping and slightly sheathing the stem, concave, folded together, erect, acuminate, rigid. *Spike* of many purple and green flowers, mottled on the petals. *Galea* very obtuse, with a small mouth, bordered by the pointless undulated, dotted petals. *Lateral sepals* with a conical spur and a short acute point. *Labellum* tapering at back into a subulate, channelled cusp, heart-shaped and warted in front.

A tall and strong growing species, rigid when dry, with purple and green flowers, the *galea* strongly resembling an old woman's "mob-cap!" It is obviously allied to *D. cardiophora*, but differs in foliage. The unpublished species of *Disperis* are probably still numerous; I have recently received two new ones, one of which (*D. M'Kenii*) I hope shortly to figure.

Fig. 1, 2, a specimen cut in the middle; the *natural* size. Fig. 3, perianth; 4, lateral sepal; 5, side view of galea; 6, another side view; 7, labellum, on the column; *magnified.*

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173. MYSTACIDIUM PUSILLUM, Harv. (*Orchideæ.*)

M. pusillum: foliis lanceolatis subacutis, sepalis ovatis obtusis, petalis spathulato-obovatis obtusis, labelli limbo crispo, calcare vix unciali tenuissimo.

Hab.—Natal, *W. T. Gerrard.*

Descr.—A stemless epiphyte. *Roots* scarcely thicker than hog's bristle. *Leaves* 2–3, distichous, 1–1½ inch long, 3–4 lines wide, lanceolate, subacute, not oblique at apex. *Raceme* many-flowered; the peduncle suberect, filiform. *Bracts* obliquely cupshaped. *Pedicels* exserted. Back *sepal* ovate; lateral deltoid-ovate, subfalcate, both obtuse, 1–2 lines long. *Petals* broadly spathulate. *Labellum* with a thread-like, uncial spur, and funnel-shaped upwards; the limb deflexed, undulate, ovate, obtuse.

The smallest of the genus, and one of the smallest of S. African Orchids. As yet I have only seen the single specimen sent by Mr. Gerrard. Besides its minute size, it differs from *M. filicorne* by the shape of the leaves and petals.

Fig. 1, specimen; *natural* size. Fig. 2, back sepal and the two petals; 3, labellum; 4, lateral sepals; 5, anther and column; 6, rostellum, with the processes of the column; 7, pollen masses; *magnified.*

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174. MYSTACIDIUM GRACILE, Harv. (*Orchideæ.*)

M. gracile: foliis . . .; sepalis petalisque ovato-lanceolatis obtusis, labelli limbo ovato-lanceolato undulato calcare unciali filiformi.

Hab.—Klaklazale Berg, Beaufort, *T. Cooper*, 271. Dargle Farm, Natal, *Mrs. G. Fannin*, 95. (Herb. T. C. D.)

Descr.—A stemless epiphyte. *Roots* as thick as packthread. *Leaves* unknown. *Racemes* many-flowered. *Pedunc.* 2–3 inches long, filiform. *Bracts* obliquely cup-shaped. *Sepals* and petals ovato-lanceolate, obtuse, flat. *Labellum* with a slender spur, about an inch or $1\frac{1}{8}$ inch long, the limb spreading, resembling the petals.

This species is almost intermediate in size between *M. pusillum* and *M. filicorne*. The roots are very much more slender than those of *M. filicorne*, and more robust than those of *M. pusillum*. The *leaves*, at present unknown, may afford additional characters.

Fig. 1, a specimen; the *natural* size. Fig. 2, perianth; 3 sepal; 4, petal; 5, labellum; 6, apex of rostellum and processes; 7, pollen masses; *magnified.*

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175. MYSTACIDIUM FILICORNE, Lindl. (*Orchideæ.*)

M. filicorne: foliis lingulatis falcatis apice oblique emarginatis, sepalis petalisque lanceolatis acuminatis, labelli limbo conformi calcare sesqui-bi-unciali. *Lindl. in Hook. Comp. Bot. Mag.*, 2, p. 206. *Limodorum longicornu, Sw. Epidendrum Capense, Linn. Angræcum Capense, Lindl. Orchid.*, 248.

Hab.—On trees in Uitenhage, Albany, Caffraria, and Natal. (Herb. T. C. D.)

Descr.—A nearly stemless epiphyte. *Roots* 1–$1\frac{1}{2}$ lines diameter. *Leaves* 4–6 inches long, $\frac{1}{2}$-inch wide, rigid, more or less falcate, distichous, obliquely and deeply emarginate at the apex. *Racemes* curved or pendulous, many-flowered, secund. *Pedunc.* often flexuous. *Petals, sepals*, and the limb of *labellum* lanceolate or linear-lanceolate, acuminate, undulate. Spur of labellum $1\frac{1}{2}$–2 inches long.

This very pretty species, on which Lindley founded his genus *Mystacidium*, is distributed throughout the forests of the Eastern Districts, Caffraria, and Natal. I have received it from most of my kind correspondents on and beyond the frontier, and specimens from widely sundered stations agree in size, form of petals, &c.; so that I have more confidence in founding the two additional species here figured, on characters derived partly from comparative size; though such characters are commonly unsatisfactory. Other minute differences may be seen in the rostellum and its processes, as well as in the lobes of the perianth.

Fig. 1, a specimen; the *natural* size. Fig. 2, sepal; 3, labellum; 4, petal; 5, anther, on the column; 6, apex of rostellum and processes; *magnified.*

176. POLYSTACHYA GERRARDI, Harv. (*Orchideæ.*)

P. Gerrardi: caule elongato cylindraceo, folio solitario ligulato-lanceolato subacuto striato erecto caulem coronante, pedunculo inflorescentiâque glaberrimis, spicâ bifidâ pluriflora, petalis spathulatis, labello glaberrimo medio verrucoso lobis lateralibus obtusis.

Hab.—On trees. Ingoma, Natal, Feb., *W. T. Gerrard*, 1557. (Herb. T. C. D.)

Descr.—*Stem* 3–4 inches long, $\frac{1}{4}$ inch in diameter, crowned with a single erect leaf, 7–8 inches long, $\frac{3}{4}$ inch wide, subacute, clasping at base, striate, flat, rather widening upwards, and ending in a subacute, equal point. All parts of the plant quite glabrous. *Pedunc.* from the axil of the leaf, slender, 6–8 inches high, bearing 2–3 small bracts, bifid; the branches nearly equal, each bearing several flowers. Proper *bracts* ovate, clasping. *Ovary* slender, uncial, tapering much at base. *Petals* linear-spathulate, obtuse. *Labellum* with two blunt, short, smooth, lateral lobes, and a longer, subacute, medial lobe, which is three-ridged at base, depressed or concave in the middle, and warted from the middle to the point. *Pollinia* not observed.

The solitary leaf and the perfectly glabrous inflorescence distinguish this species from any of the Cape *Polystachyæ;* but by these same characters it appears to be nearly allied to *P. cultrata* of the Mauritius, with which I have not had an opportunity of comparing it. It is one of Mr. Gerrard's many discoveries, and deservingly bears his name.

Fig. 1, lower part of stem, with leaf; 2, upper part, with flowers; *the natural* size. Fig. 3, a flower, pulled open; 4, labellum; 5, a petal; 6, lateral sepal; 7, back sepal; 8, column; all *magnified.*

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177. POLYSTACHYA SANDERSONI, Harv. (*Orchideæ.*)

P. Sandersoni: caule bulboso ovato apice angustato, foliis binis lato-linearibus obtusis subfalcatis basi vaginantibus, panicula floribusque pubescentibus, petalis linearibus subspathulatis, labello glabro medio verrucoso lobis lateralibus obtusis.

Hab.—Attercliffe, Natal, 600 ft., rare, *J. Sanderson*, 134. (Herb. T. C. D.)

Descr.—*Stems* tufted, bulb-like, $\frac{1}{2}$–$\frac{3}{4}$ inch long, $\frac{1}{2}$ inch in diameter. Flowering stem (*peduncle*) clothed with 2–3 close sheaths at base, and bearing two long, spreading or falcate, linear-strapshaped, obtuse leaves, parted above, branched, pubescent, as are also the bracts and the flowers. *Bracts* taper-pointed, spreading. *Ovary* $\frac{1}{2}$–$\frac{3}{4}$ inch long. *Sepals* acuminate. *Petals* linear, slightly spathulate, subobtuse. *Labellum* with two broad, oblong, very obtuse, ascending lateral lobes, granulated or warted in the middle, and an ovate, subacute, warted medial lobe. *Pollinia* 4, connate in pairs.

Of this rare plant I have seen but a single specimen, communicated to me in 1860 by *Mr. Sanderson*, its discoverer. It differs from *P.*

Lindleyana not merely by its narrow leaves, but by its branching inflorescence and narrower petals.

Fig. 1, stem, leaves and inflorescence; the *natural* size. Fig. 2, a flower, pulled open; 3, labellum; 4, side view of the same; 5, a petal; 6, back sepal; 7, lateral sepal; 8, column; 9, anther, removed; 10, pollinia; all *magnified*.

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178. POLYSTACHYA LINDLEYANA, Harv. (*Orchideæ.*)

P. Lindleyana: caule bulboso apice attenuato vaginato, foliis binis oblongo-lanceolatis v. ligulatis obtusis v. subacutis multistriatis basi vaginantibus, spicâ simplici multiflora, pedunculo ovariisque pubescentibus, floribus extus glabris, petalis oblongi-obovatis, labello intus pubescente lobis omnibus ovatis subacutis. *Epiphora pubescens, Lindl.! in Herb. Drege. Lindl. in Hook. comp. Bot. Mag. vol.* 2, p. 201. *Sond., in Linn.* vol. xix. p. 71.

Hab.—On trees, and sometimes on rocks, throughout the Eastern Districts, in Caffraria, Krakakamma Forest, *E. & Z.! Drege! H. Hutton!* Near Port Elizabeth. *Mrs. Holland!* (cum icone). Highlands, *Mrs. F. W. Barber*, 261! Kreili's Country, *Bowker!* 354. Caffirland, *Rev. J. Brownlee.* (Herb. T. C. D.)

Descr.—*Stem* or pseudo-bulb 1–2 inches long, 4–5 lines wide at base, tapering upwards, and quite covered with sheaths. *Leaves* 2, varying from lanceolate to strapshaped, and from acute to obtuse, 3–9 inches long, 5–8 lines wide. *Pedunc.* simple, pubescent, bearing 2–4 small, acute empty bracts, and ending in a longer or shorter simple spike of flowers. *Ovary* pubescent. *Flowers* externally glabrous. *Petals* oblong-obovate, obtuse. *Labellum* hispid within, depressed or concave in the centre, all the lobes ovate, subacute, the terminal broader. *Pollinia* 4, connate in pairs.

This is the plant on which Dr. Lindley founded his genus *Epiphora*, which he described in his paper on *Drege's* Orchids, above quoted. He there remarks on its near resemblance in many respects to *Polystachya*, but states that it differs in the pollen masses, to which he attributes a caudicle. Probably the specimen he examined was in bad order; for after repeated examinations of numerous specimens, I have been unable to detect any difference in structure between the pollinia of this and of the other Cape species here figured, which so closely resemble it in every other respect. As most *Polystachyæ* are "pubescent," I have ventured to alter the specific name in changing the genus.

Fig. 1, plant; the *natural* size. Fig. 2, flower, pulled open; 3, labellum; 4, petal; 5, lateral sepal; 6, back sepal; 7, column; 8, anther; 9, pollinia; all *magnified*.

179. POLYSTACHYA CAPENSIS, Sond. (*Orchideæ.*)

P. Capensis: caule bulboso brevi vaginato, foliis binis lineari-oblongis v. lingulatis obtusis emarginatisve basi vaginantibus, spica simplici pauciflora, pedunculo ovariisque pubescentibus, floribus extus glabris, petalis oblongo-obovatis, labello intus hispidulo lobis lateralibus brevibus obtusis, lobo medio ovato acuminato undulato. *P. Capensis, Sond !* in Hb. E. & Z.

Hab.—On trees, Eastern Frontier, *E. and Z. !* Albany District, *Mrs. H. Hutton !* British Caffraria, *T. Cooper*, 203. Fort Bowker, on the Bashee, *J. H. Bowker*, 600 ! Natal, *J. Sanderson*, 560. (Herb. T. C. D.)

Descr.—*Stem*, or pseudo-bulb, ovoid, an inch or less in length, coated by scales. *Leaves* two, varying considerably in length and breadth, from 1½ inches to 4 inches long, 2–5 lines wide, obtuse. *Pedunc.* equalling the leaves or shorter, pubescent, bearing 2–3 flowers, rarely 4-flowered. *Ovary* minutely pubescent. *Flowers* externally glabrous. *Petals* oblong-obovate. *Labellum* somewhat ridged in the centre, the lateral lobes short and blunt, medial lobe longer, ovate-subacuminate, undulate. *Pollinia* 4, connate in pairs.

This is the smallest of the Cape *Polystachyæ*, or perhaps of the genus. It is very constant in most of its characters in the many specimens that have passed through my hands, and seems to be not uncommon in the Eastern Districts. I am indebted to Mrs. Henry Hutton for a great number of well dried specimens of it, one of which has been used in our plate. The chief variations that I have noticed have been in the comparative length and breadth of the leaves.

Fig. 1, plants, the *natural* size. Fig. 2. a flower, pulled open; 3, labellum; 4, petal; 5, lateral sepal; 6, back sepal; 7, anther; 8, pollinia; all *magnified.*

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180. TULBAGHIA ACUTILOBA, Harv. (*Liliaceæ.*)

T. acutiloba: foliis numerosis brevibus linearibus acutis glabris, pedunculo foliis multo longiori 3–6-floro, perianthii laciniis lineari lanceolatis acutis, interioribus ad nectarium longè adnatis.

Hab.—District of Queenstown, *T. Cooper*, 463. Natal, October, 1860, *J. Sanderson*, 271. Near D'Urban, *Gerr. and M'Ken*, 740. (Herb. T. C. D.)

Descr.—Root not seen. *Leaves* 4–8, erect or spreading, 2–4 inches long, 1 line wide, acute. *Scape* 8–12–16 inches long, bearing an umbel of 3–6 flowers, apparently of a dull brownish-green colour. Spathaceous *bracts* 2, lanceolate acuminate. *Pedicels* slender, longer than the flowers. *Perianth* with a sort thick bluntly 6-ribbed tube, rather longer than the segments, and a stellately spreading limb, crowned by a fleshy oblong *nectary*, which is very bluntly 3-crenate. *Segments* of the perianth semi-lanceolate, very acute; the three innermost adnate to the sides of the nectary for at least ⅓rd of their length. *Stamens* 6, in-

serted in two rows within the mouth of the "nectary;" filaments scarcely any. *Ovary* ovoid, 3-cornered, 3-celled; *style* shorter than the ovary; *stigma* 3-lobed.

A small species of *Tulbaghia*, allied to *T. Dregeana*, from which it is distinguished by the sharp points of the perianth-lobes, three of which are adnate to the fleshy protruding mouth of the tube, or "nectary." The specimens from the above localities agree very well together.

Fig. 1, a plant, the *natural* size. Fig. 2, a flower; 3, inside view of the perianth laid open, to show the insertion of the stamens; 4, outside view of the same; 5, stamen; 6, ovary and style; all *magnified*.

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181. XYLOSMA? MONOSPORA, Harv. (*Bixaceæ.*)

X.? monospora: dioica, ramulis foliisque glabris, foliis petiolatis oblongis basi acutis supra nitentibus subtus venosis integris v. plus minus repandis sinuato-dentatisve, racemis axillaribus petiolo vix longioribus pubescentibus, perianthio masculo 4-lobo, fœmineo 3-lobo, ovario obovoideo stigmate pulvinato coronato, ovulo unico pendulo.

Hab.—Natal, *T. Cooper*, 1204, 1251. (Herb. T. C. D.)

Descr.—A nearly glabrous shrub, or small tree, bearing minute unisexual flowers, on different stocks. *Leaves* alternate, often closely approximate at base, so as to appear subopposite, shortly petioled, 5–7 inches long, $1\frac{1}{2}$–$2\frac{1}{2}$ inches wide, acute at base, oblong or elliptic-oblong, glossy above, strongly nerved and veiny beneath, either entire, or more or less conspicuously repand or sinuate-toothed, obtuse or subacute. *Flowers* of each sex in axillary, pubescent racemes. *Male* perianth 4-lobed (in our specimens not mature), containing about 10–12 stamens. *Female* perianth 3-lobed, without stamens. *Ovary* obovoid, exserted, crowned by a cushion-like stigma. 1-celled, with one pendulous ovule. *Fruit* unknown.

I have some doubts in referring the present plant to *Xylosma*; but think it better, until the ripe fruit shall have been ascertained, to place it in this genus, than to found one for its reception. If it really belong to this group, it represents a type in which the ovary is reduced to the greatest possible simplicity. I have as yet only seen the specimens sent by Mr. Cooper, in which the flowers are in a very immature condition.

Fig. 1, a twig, with leaves and flowers; the *natural* size. Fig. 2, an immature ♂ flower, pulled open; 3, stamen from the same; 4, a ♀ flower; 5, its calyx; 6, ovary; 7, the same, cut vertically; 8, the same, cut across; all *magnified*.

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182. ZEHNERIA WYLEYANA, Sond. (*Cucurbitaceæ.*)

Z. Wyleyana; monoica, glaberrima foliis petiolatis profunde palmatifidis pedatifidisve 5-partitis lævibus, laciniis lineari-lanceolatis in-

tegerrimis inferioribus sæpius bifidis, mediis longioribus, bracteis latè cordatis dentatis, pedunculis (♂) 2–3 aggregatis, subramosis bracteam subequantibus. *Sond.!* in *Harv. & Sond. Fl. Cap.* 2, p. 488.

HAB.—**Namaqualand, *A. Wyley!* (Herb. T. C. D.)**

DESCR.—*Stems* long and slender, trailing or climbing, 4-sided, ribbed, and furrowed. *Petiole* much shorter than the leaf. *Leaf* glabrous, and smooth (when dry), but dotted with much depressed subconvex small wartlike dots, commonly deeply pedatifid; the lobes linear-lanceolate, acute, spreading, the 3 central longest, the lateral connate nearly to the middle (or bifid). *Tendril* simple, slender. *Bracts* broadly cordate or ovate, shortly but sharply sinuate-toothed. *Male* flowers in very short, 3–4-flowered, imperfect racemes, the axis being very short; or 3–4 pedicels fascicled from the axle of the solitary bract. *Tube* of perianth 4 lines, lobes about 2 lines long.

A graceful little plant, nearly allied to *Z. Garcini* (Tab. XCVI.), but with much more deeply divided leaves, perfectly entire margins to the leaf lobes, and toothed, not ciliate bracts. It is one of a number of interesting new species communicated to me by *Mr. A. Wyley*, and collected by him during his survey of Little Namaqualand.

Fig 1, part of a branch, with leaves and flowers; the *natural* size. Fig. 2, the ♂ perianth; 3, stamens from the same; ***magnified.***

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183. LAGENARIA SAGITTATA, Harv. (*Cucurbitaceæ.*)

L. sagittata; dioica, caule glabro sulcato, cirrhis simplicibus, foliis pilis minimis adpressis rigidis scabris sagittatis, lobis acuminatis omnibus elongatis nunc integerrimis nunc utrinque argute unidentatis v. lobulatis, pedicellis subfasciculatis, floribus perparvis. *Sond.! in Fl. Cap.*, vol. 2, p. 489.

Hab.—Various localities at Natal. *J. Sanderson!* 1, 687, 707, 730. *W. T. Gerrard* (in litt.). (Herb. T. C. D.)

DESCR.—*Rootstock* thick and rugged, sending out many slender annual stems. *Stems* 2 feet long or more, "either trailing on the ground, or climbing by its tendrils up the culms of grasses, &c." (*W. T. G.*), glabrous, sharply angled, furrowed. *Leaves* (on slender petioles shorter than the lamina), deeply sagittate, but rather variable in the proportionate length and breadth of the lobes: sometimes basal and medial lobes are all linear-lanceolate, entire, and the basal divergent; sometimes the body of the leaf is broad, the lobes shorter, and either unidentate or shortly lobed; sometimes it is the medial, sometimes the basal that are toothed or lobed; always the lobes are very acute. *Pedicels* 2–3 together, rather longer than the petiole. *Male* perianth 5–7-fid, with alternating external, tooth-like lobules, turbinate. *Anthers* 3, twisted. *Female* perianth, similar to the male, but with a longer tube; *ovary* ovoid, tapering much at the apex. *Fruit* not seen (by me).

This small cucurbit seems to be frequent at Natal. In the genus *Lagenaria*, if it really belong to it, it is remarkable for the minute size of its flowers. I have not as yet seen ripe fruit.

Fig. 1, a flowering ♂ plant; the *natural* size. Fig. 2, ♂ perianth; 3, another view of the same; 4, stamens; 5, the ♀ perianth; 6, stigma; all *magnified*.

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184. AMPHITHALEA WILLIAMSONI, Harv. (*Leguminosæ.*)

A. Williamsoni; ramis virgatis pubescentibus, foliis ovatis v. ovato-lanceolatis calloso-mucronulatis planiusculis marginibus leviter introflexis supra glabris subtus adpresse-pubescentibus trinerviis, calycis sericei dentibus ovatis acutis tubo brevioribus. *Harv.* in *Fl. Cap.* 2. p. 23.

Hab.—Albany, *T. Williamson!* Featherston's Kloof, Grahamstown, *P. Mac Owan*, 313. (Herb. T. C. D.)

Descr.—A small shrub, 2-3 feet high. *Branches* softly pubescent, rodlike, closely leafy, either simple or emitting similar lateral branchlets, few or many. *Leaves* ovate, ovate-oblong or ovate-lanceolate, silky beneath, the *adult* quite glabrous and glossy above, flattish or slightly concave, the margin slightly *inflexed*; nerves 3, most visible on the lower surface. *Flowers* sessile in the axils of the upper leaves, forming more or less of a leafy spike, purple, with a dark keel. *Calyx*-teeth much shorter than the tube, ovate, acute (or deltoid). *Ovary* uniovulate.

This neat little bush was originally described from a few fragments, gathered in 1838, by a private of the 72nd Regiment, whom I employed to collect on the frontier. Nothing further was known of it till recently, when *Mr. Mac Owan* discovered it in the above habitat, and furnished me with many excellent specimens, from one of which our drawing has been made. It differs from all known species of *Amphithalea* (except *A. micrantha*) by the *inflexed*, not *reflexed*, edges of its leaves, an obvious character, by which it may be known at a glance.

Fig. 1, flowering branch; the *natural* size. Fig. 2, upper surface of leaf; 3, under surface of same; 4, a flower; 5, calyx laid open; 6, vexillum; 7, one of the alæ; 8, half the carina; 9, stamens, with ovary *in situ*; 10, ovary; 11, the same cut in half; all *magnified*.

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185. ELÆODENDRON? LAURIFOLIUM, Harv. (*Celastrineæ.*)

E? laurifolium: glabrum, foliis oppositis oblongis v. oblongo-ellipticis nunc basi et apice obtusis nunc apice acutis, nunc emarginatis supra nitentibus subtus venosis marginibus reflexis integris v. remote et minute denticulatis, pedunculis axillaribus nutantibus petiolum equantibus, floribus 2–5 subsessilibus capitulatis, petalis *unguiculatis* erecto-patentibus, ungue lato-lineari, lamina ovata subacuta, ovario 2-loculari.

Hab.—Near Natal, *Gueinzius! T. Williamson! Gerr. & M'Ken.*, 652! (Herb. T.C.D.)

Descr.—A shrub or small tree, glabrous in all parts. *Leaves* oppositе their petioles, 3–6 lines long; lamina 2–5 inches long, 1–2–3 inches wide, varying from oblong to elliptical, obtuse or acute, or as often retuse or emarginate, penninerved and veiny beneath, with an obviously reflexed margin, which is distantly and often obsoletely callous-denticled. *Peduncles* 3–8 lines long, bending downwards, each bearing a little tuft of 3–5 sub-sessile flowers. *Calyx*-lobes roundish or ovate, fimbriate. *Petals* imperfectly clawed, the lower part (or claw) erect, broadly linear, the upper (lamina) rather broader, spreading, ovate. *Stamens* rather shorter than the petals. *Ovary* depressed, 2-celled; ovules geminate; styles consolidated, columnar. *Fruit* unknown.

This shrub must have been known to my friend *Sonder*, when he described the Celastrineæ for the Flora, but I do not find that he has included it under any name. I therefore feel some hesitation in referring it to *Elæodendron*, although it answers pretty nearly in character, differing chiefly, so far as I can see, in the form of the petals, and partly in inflorescence. The fruit is still a desideratum. It seems to be a common plant near D'Urban.

Fig. 1, a flowering branch; the *natural* size. Fig. 2, a flower; 3, the calyx expanded, and the ovary *in situ*; 4, a petal; 5, a stamen; 6, cross section of the ovary; all *magnified*.

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186. ELÆODENDRON VELUTINUM, Harv. (*Celastrineæ.*)

E. (Mystroxylon) velutinum; ramulis pedunculisque densè velutinis, foliis alternis breve-petiolatis elliptico-oblongis obtusis basi ovato-subcordatis supra molliter pubescentibus subtus mollissime velutinis marginibus denticulatis vix recurvatis, cymis multifloris axillaribus longè pedunculatis, petalis ovatis sessilibus, ovario triloculari.

Hab.—Nonoti River, Natal, *Gerr. & M'Ken.!* 1381. (Herb. T.C.D.)

Descr.—"A large shrub, 10 or more feet high."—*W. T. G.* *Twigs* curved, as if inclined to a twining habit, 4-sided, thickly and very softly clothed with short, spreading velvety pubescence. *Leaves* $2\frac{1}{2}$–$4\frac{1}{2}$ inches long, $1\frac{1}{2}$–$2\frac{1}{2}$ inches wide, penninerved, ovate or slightly cordate at base, oblong, obtuse, minutely denticled, the upper surface pubescent, with scattered hairs, the lower very softly and thickly velvety, like the twigs. *Petiole* 2–3 lines long. *Peduncles* axillary, 1–$1\frac{1}{2}$ inches long, bearing a simple or branched, many-flowered cyme. *Calyx*-lobes oblong, serrulate. *Petals* broadly ovate, sessile. *Stamens* much shorter than the petals or calyx-lobes. *Ovary* depressed within the 5-angled disk, 3-celled; ovules geminate, erect. Ripe fruit not seen.

I follow Endlicher, as well as Hooker and Bentham (Gen. Pl.

p. 367) in uniting *Mystroxylon, E. & Z.*, the species of which have alternate leaves, with *Elæodendron*, Jacq. f., in which the leaves are usually opposite; there seems no floral or carpical differences between them. The present species is readily known by its very copious and softly velvety pubescence, and its much branched inflorescence.

Fig. 1, flowering branch; the *natural* size. Fig. 2, a flower, laid open; 3, the same, after the petals have been removed; 4, a petal; 5, cross section of the ovary; all *magnified.*

187–188. HYDNORA TRICEPS, E. Mey. (*Rafflesiaceæ.*)

H. triceps; hermaphrodita, perianthii laciniis superne dilatatis connatisque inferne hiantibus margine nudis, antheris omnino posticis. *R. Br. in Linn. Trans.*, vol. xix. 245. *E. Mey! in Nov. Act. Acad. Nat. Curios.*, vol. xvi. pars. 2. p. 779.

Hab.—Between Zilverfontein, Kooperbergen, and Kaus, 2–3000f., *Drege!* Modderfontein, *Rev. Henry Whitehead!* (Herb. T. C. D.)

Descr.—*Parasitic* on roots. *Stem*, or rhizome, horizontal and generally underground, irregularly branching, from $\frac{3}{4}$–1 inch thick, 4-sided, with rows of blunt, wartlike tubercles or prominences on the angles, coated with a brown skin, solid, fleshy. *Flowers* arising on the angles of the stem, as if from the enlargement of a tubercle, erect, scarcely-stipitate. *Perianth* fleshy, brown, coated externally with scurf-like scales which rub off, with a cylindrical tube 3–4 inches long and 1–1$\frac{1}{2}$ diam., expanding at the summit into a 3-lobed limb; the *lobes* very broad, remaining persistently soldered together in their upper half, but separating and gaping in the lower, the gaping margin slightly inflexed, entire (not ciliate). *Column* of stamens near the summit of the tube, 3-lobed, the lobes blunt, opposite the segments of the perianth. *Anthers* indefinite, linear, parallel, adnate to the fleshy column, extrorse. *Ovary* adnate with the base of the perianth. *Stigma* sessile, flat, somewhat 3-lobed. *Placentæ* indefinitely numerous, cylindrical, pendulous from the root of the ovarian cavity, each covered with very many cellular ovules.

I am indebted to the *Rev. H. Whitehead*, now of St. Helena, for the fine specimen of this curious plant, preserved in spirits, from which our figure has been taken.

Fig. 1, part of the underground stem (parasitically attached to a root), bearing a full-grown and a half-grown perianth; 2, the perianth, cut lengthwise, the *natural* size. Fig. 3, vertical view of the monadelphous stamens; 4, side view of 3 anthers, from the same; 5, section to show the imperfectly 2-celled anthers; 6, pollen; 7, section through the stigma, showing the pendulous placentæ; 8, ovules; all *magnified.*

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189. SUFFRENIA CAPENSIS, Harv. (*Lythraceæ.*)

S. Capensis; densissime cæspitosa, pusilla; caulibus simpliciusculis, foliis lineari-subulatis apice emarginatis.

HAB.—Draakensberg, Orange Free State, *T. Cooper !* 1044. (Herb. T. C D.)

DESCR.—*Stems* 1–2 inches high, thread-like, erect, most densely tufted, leafy throughout. *Leaves* opposite, decussating, linear-subulate, tapering to a slender, but bidentate point, one-nerved, glabrous. *Flowers* solitary in the axils of the leaves, very minute, and nearly but not quite sessile, each subtended by a pair of small bracts in the middle of its little pedicel. *Calyx* cupshaped, shortly 4-lobed; the lobes deltoid, acute. *Petals* none? *Stamens* two, inserted in the calyx tube, rather above the middle, and opposite two of the lobes. *Filaments* very short, included; anthers two-celled, cells subdivergent. *Ovary* broader than long, 2-celled; style short; stigma subcapitate. *Capsule* bivalve, horny, longer than the calyx. *Seeds* ellipsoidal. *Embryo* with fleshy, elliptical cotyledons, and an ovate, short radicle.

Though this is a minute, and will by many be thought a very insignificant plant, having flowers no bigger than the head of a pin, it is interesting to botanists as a species of a genus hitherto only known in the south of Europe. If it have *petals*, as the European species has, they have perished from our specimens: in the European plant they are extremely small and fugacious. Our plant essentially differs in the form of leaves; in habit the European and African species agree, and both are found in wet spots, the former in rice-fields.

Fig. 1, tuft; the *natural* size. Fig. 2, apex of a branch, in flower (above) and seed (below); 3, a leaf; 4, flower; 5, calyx, laid open; 6, a stamen; 7, ovary; 8, capsule, after dehiscing; 9, seed; 10, embryo; all *magnified*.

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190. BOUCHEA LATIFOLIA, Harv. (*Verbenaceæ.*)

B. latifolia; pubescens, caule elato folioso, foliis imbricatis latè obovatis acutis basi cuneatis sub-petiolatis integerrimis penninerviis punctatis utrinque molliter pubescentibus, spicis terminalibus densifloris, bracteis lanceolatis acutis calyce breviori, calycis dentibus breviter subulatis, capsula calyce fructifero breviore.

HAB.—Dry plains, Zululand, *Gerr. & M'Ken.*, 1247. (Herb. T. C. D.)

DESCR.—*Stem* 2–3 feet high, subsimple? or branched. All parts are closely, softly, and shortly pubescent. *Leaves* erect, imbricating, 2–2½ inches long, 1½–2 inches wide, flat, thickish, broadly obovate, acute, cuneate at base, tapering into an imperfect petiole, penninerved, quite entire, gland-dotted. *Spikes* terminal, dense, many-flowered. *Bracteæ* shorter than the calyx, lanceolate-subulate. *Calyx* cylindrical, somewhat 5-angled; its lobes shortly subulate. *Corolla* white; its tube much exserted; lobes undulate. Fruiting *calyx* split down one side, gaping at base, and showing the enclosed, shorter capsule.

The copious and dense pubescence, broad, and perfectly entire leaves, and closely-flowered spike will serve to distinguish this from any South African species of *Bouchea*. Judging by the specimens seen, I

suppose it to be an erect, virgate, and but little-branched suffrutex. Its white flowers are scarcely in proportion to the size of its leaves.

Fig. 1, upper portion of a flowering stem; the *natural* size. Fig. 2, calyx; 3, corolla; 4, calyx of the fruit, naturally split, and showing the contained fruit; all *magnified.*

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191. SARCOCYPHULA GERRARDI, Harv. (*Asclepiadeæ.*)

Gen. Char.—*Calyx* 5-partitus. *Corolla* rotata. *Corona* cyathiformis, 5-crenata, inter crenulas tumida (quasi 5-saccata). *Anthera* membranâ terminatæ. *Massæ* pollinis ovoideæ, apice affixæ, pendulæ. *Stigma* depressum. Folliculi. . . . ?

S. Gerrardi: *Harv.* in *Herb.* T. C. D.

Hab.—Growing alongside and intertwined with *Sarcostemma viminale*, at Thorny-bush, Tugela, *W. T. Gerrard*, 1321. (Herb. T. C. D.)

Descr.—A leafless, succulent, branching climber, glabrous in all parts. Rudimentary leaf-scales opposite, minute, tooth-like, at intervals of 1–2 inches. *Umbels* sessile, at the nodes, several-flowered; *pedicels* 2–3 lines long. *Calyx* 5-parted, much shorter than the corolla. *Corolla* rotate; its lobes somewhat fleshy, ovate, acute. *Corona* staminea cuplike, short, with 5 small blunt or emarginate teeth opposite the anthers, and 5 puffy, sac-like swellings alternating. *Anthers* tipped with a membrane. *Pollen* masses ovoid, fixed at the apex, pendulous.

If this be not a *monstrosity*, it is at least a *curiosity*, having the aspect of *Sarcostemma viminale* so completely, that except by its flowers, the latter is with difficulty distinguishable; and besides this, growing alongside and intertwined with its *double*, as *Mr. Gerrard* tells us. From *Sarcostemma* it differs in its corona, which is more like that of *Cynoctonum*, and in the shape of its pollen masses. As I cannot refer it to any established genus, I am compelled to form one for its reception.

Fig. 1, flowering specimen; the *natural* size. Fig. 2, a flower; 3, calyx; 4, the corolla, laid open; 5, corona; 6, inside, and 7, outside view of the same, laid open; 8, back view of anther; 9, pollen masses; all *magnified.*

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192. GOMPHOCARPUS SCABER, Harv. (*Asclepiadeæ.*)

G. scaber: caule erecto robusto bifariam scabro, foliis (nunc *alternis*) brevè petiolatis latissimè ellipticis utrinque obtusis planis rigidis valide costatis creberrime penninerviis supra (nisi ad marginem scabrum) sæpius lævibus subtus ad costam nervos et marginem scabris, umbella subsessili terminali pluriflora, corolla rotatâ patente lobis ovatis acutis, coronæ-staminеæ foliolis depressis basi trapezoideis angulis intramarginalibus deltoideis subacutis arrectis apice in ligulam extus canaliculatam introflexam productis.

HAB.—Zululand, January, *Gerr. & M'Ken.*, 1285. (Herb. T. C. D.)

DESCR.—*Stem* erect, somewhat 4-angled, bifariously rough with hard points. *Leaves* opposite or sometimes alternate, on short petioles, elliptical, submucronulate, thick and rigid, very closely penninerved, with a thick midrib prominent beneath, rough with hard, sharp points on the margin, midrib and nerves, and thinly sprinkled over both surfaces with similar points. *Umbel* in our specimen sessile, several-flowered; *bracts* few, subulate. *Pedicels* 1½ inches long, scabrous. *Calyx* lobes ovate, subacute, externally pubescent. *Corolla* unspotted, rotate, the lobes ovate, acute, with a velvety spot at base. *Corona*-folioles horizontally depressed, trapezoid, with two very prominent, deltoid, upright, intramarginal angles, the apex produced into a long, incurved, channelled ligule.

Fig. 1, flowering branch; the *natural* size. Fig. 2, inside and outside views of a calyx-lobe; 3, lobe of the corolla; 4, corona and the enclosed andrœcium; 5, one of the folioles of the corona; all *magnified*.

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193. GOMPHOCARPUS GERRARDI, Harv. (*Asclepiadeæ.*)

G. Gerrardi; caule erecto simplici subbifariam piloso, foliis brevissime petiolatis lineari-lanceolatis utrinque acutis marginibus revolutis supra adpressè aspero-hispidis subtus glabris costâ pilosâ, umbellis axillaribus terminalibusque multifloris, corollâ campanulata extus pubescente lobis ovatis venosis, coronæ-staminеæ foliolis depressis oblongis acutis angulis intramarginalibus arrectis cultriformibus acutis.

HAB.—Ingoma, Natal, *W. T. Gerrard*, 1299. (Herb. T. C. D.)

DESCR.—*Stem* 12–15 in. high, subquadrangular, pilose alternately from node to node on two sides. *Leaves* opposite, about 1–1½ inch apart, linear-lanceolate, acute, 4–5 inches long, 2–3 lines wide, with revolute margins, closely and rigidly pubescent above and on the nerve beneath. *Peduncles* shorter than the leaves, many-flowered. *Calyx*-lobes lanceolate, pubescent. *Corolla* ¾ inch across, shortly campanulate, open, 5-lobed to the middle, pubescent outside, thin and veiny, white; the lobes ovate. *Corona*-folioles horizontal, oblong, acute, with two intramarginal, rectangle-triangular (cultrate), erect angle-plates.

A very pretty species of *Gomphocarpus*, allied to *G. campanulatus*, but with much smaller, more open, and greatly more numerous flowers. It is one of many new species of *Gomphocarpus* brought by Mr. Gerrard from Zululand, three others of which are figured in this number. I have selected these four for figuring, partly from their beauty, and partly because they differ so greatly from each other in the *folioles* of their corona, showing the wide variations of those organs within the limits of a natural genus.

Fig. 1, upper portion of flowering stem; the *natural* size; Fig. 2, segment of the corolla; 3, corona and andrœcium; 4, foliole of the corona; 5, anther, inside view; 6, pollen masses; all *magnified*.

194. GOMPHOCARPUS M'KENII, Harv. (*Asclepiadeæ.*)

G. M'Kenii; caule suffruticoso ramoso, ramis 4–angulis bifariam hispidis, foliis brevè petiolatis ellipticis planis rigidis valide costatis, crebre penninerviis supra vel utrinque sparsim pilosis marginibus vix reflexis ciliatis demum scabro-tuberculatis, umbellis axillaribus brevissime pedunculatis paucifloris, corolla campanulato-rotata maculata extus hic illic pilosa lobis oblongo-ovatis, gynostegio stipitato, corona-staminea ad apicem stipitis inserta, foliolis basi horizontaliter patentibus apice incurvis lineari-lanceolatis acutis extus canaliculatis intus basi angulis binis intramarginalibus arrectis cultratis auctis.

Hab.—Zululand, *Gerrard & M'Ken*, 1284. (Herb. T. C. D.)

Descr.—*Stem* 2 or more feet high, robust, branched; branches somewhat 4-angled, alternately hispid on two sides between the nodes. *Leaves* short-petioled, $1\frac{1}{2}$–2 inches long, 1–$1\frac{1}{2}$ inch wide, rigid, elliptical, flat, closely penninerved, sparsely setose on one or both sides, the margin of the young leaves ciliate, of the older rough with hard sharp points (the bases of the fallen ciliary bristles). *Umbels* axillary, 3–4 flowered, on very short, hairy peduncles. *Calyx* lobes lanceolate, hairy. *Corolla* brown-spotted, widely campanulate, the lobes ovate. *Corona* inserted at the summit of the *stipitate* gynostegium; *folioles* horizontally spreading at base, inflexed at apex, linear-lanceolate, acute, with 2 erect intramarginal angles at base, on the inside.

This must be a handsome species, though the colour of the spotted flowers is somewhat lurid. It is readily known from all allied species by its broad foliage and the form of the *folioles* of the corona-staminea. I inscribe it to *Mr. M'Ken*, of the Natal Botanic Garden, and trust we may soon have it, and others from the same quarter, in cultivation.

Fig. 1, flowering branch; the *natural* size. Fig. 2, 3, inner and outer views of a calyx lobe; 4, section of the corolla; 5, the corona *in situ*, on the androecium; 6, a foliole of the corona; 7, anther; all *magnified*.

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195. GOMPHOCARPUS EMINENS, Harv. (*Asclepiadeæ.*)

G. eminens; caulibus diffusis adscendentibusve ramosis bifariam hispidis, foliis breve petiolatis basi truncato-hastatis linearibus apice longè attenuatis utrinque glaberrimis margine revolutis, umbellis terminalibus multifloris breve pedunculatis, corolla 5-partita reflexa laciniis lanceolatis marginatis glabris, gynostegio stipitato, coronâ-staminea ad apicem stipitis inserta, foliolis erectis gynostegium longe superantibus apice mucronatis dorso costatis angulis internis complicatis apice rotundatis versus basin attenuatis.

Hab.—Dry plains, Zululand, *Gerrard & M'Ken*, 1291. (Herb. T. C. D.)

Descr.—*Stems* several from the crown, decumbent or ascending, 6–8 inches long, bifariously hispid, branched. *Leaves* opposite, short-peti-

oled, 4–5 inches long, 3–4 lines wide, truncate or hastate at base, linear, tapering to a long, acute point, glabrous on both sides, with strongly revolute margins. *Umbels* short-peduncled, terminal, several or many-flowered. *Corolla* "dull white," greenish outside, 5-parted; the lobes strongly reflexed, lanceolate, opaque, with a narrow white margin. *Gynostegium* stipitate. *Corona* erect, 2–3 times longer than the gynostege; its folioles somewhat spathulate, mucronate, dorsally ribbed, with rounded upper angles, the inflexed plates tapering to a narrow base.

This agrees in habit with several of the smaller species of *Gomphocarpus*, but is readily known by its "*eminent*" corona, which so greatly overtops the gynostegium.

Fig. 1, flowering stem; the *natural* size. Fig. 2, section of corolla; 3, corona, surrounding and overtopping the androecium; 4, foliole of corona; 5, the androecium, after removal of corona; 6, anther, inside view; 7, pollen masses; all *magnified*.

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196. BRACHYSTELMA GERRARDI, Harv. (*Asclepiadeæ.*)

B. Gerrardi; radice . . . . , caule erecto 1–2 pedali subsimplici piloso, foliis ovatis basi-cordatis penninerviis rigide setosis, pedicellis folio brevioribus, calycis laciniis parvis ovatis costatis longe aristatis, corolla tubo brevi, limbi laciniis tubo triplo longioribus apice liberis panduriformibus intus sub apicem nigro-velutinis marginibus introflexis infra medium elegantissime ciliatis, ciliis inflexis glanduligeris, coronæ lobis primariis linearibus.

Hab.—Emyati, Natal, *W. T. Gerrard*, 1318. (Herb. T. C. D.)

Descr.—*Root* unknown. *Stem* 1–2 feet high, simple or perhaps branched. *Leaves* short-petioled, cordate at base, broadly ovate, subacute, 1–1½ inches long, ¾–1 inch wide, rather longer than the internodes, hairy, especially on the nerves and veins. *Flowers* axillary, solitary, on slender petioles. *Calyx*-lobes broad and short, glabrous, with a thick, hispid midrib, continued into a long, awnlike point. *Corolla* of a very dark, blackish-green colour, velvety on the inside of its lobes above, and pale yellow below, with a short, broad, campanulate tube; lobes somewhat fiddle-shaped, broad at top and bottom, contracted in the middle, the margins inflexed and elegantly ciliated in their lower half with inflexed, gland-tipped, purple cilia. Lobes of the corona-staminea opposite the anther, linear erect, subacute.

A very handsome and a very remarkable species of *Brachystelma*, with much broader and shorter corolla-lobes than usual, and specially distinguished by the inflexed, glandular cilia. The stem is taller and stiffer than common, and seems to be unbranched. Whether or not it has the tuberous root common to others of the genus is not known. I name it in honour of its discoverer, as one of the most curious of the many curious Asclepiads which we owe to his researches.

Fig. 1, upper portion of stem, in flower; the *natural* size. Fig. 2, outer, and 3, inner view of calyx lobe; 4, a flower; 5, segment of the corolla; 6, the corona, outside view; 7, part of the same, laid open, and viewed from within; 8, another; 9, pollen-masses; all *magnified*.

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197. MANULEA BELLIDIFOLIA, Benth. (*Scrophularineæ.*)

M. bellidifolia: foliis subradicalibus rosulatis obovato-oblongis subcrenatis integrisve glabris v. tenuiter puberulis, caule scapiformi simplici, racemis fructiferis elongatis, capsulis remotis, calycis segmentis lanceolatis puberulis, corollæ laciniis oblongo-obovatis, staminibus anticis ad faucem insertis antheris transversis cassis. *Benth. in DC. Prodr. X.* p. 364. *Comp. Bot. Mag.* 1, p. 382.

Hab.— Uitenhage, *Ecklon, Drege.* Queenstown District, on sandy flats, *Mrs. F. W. Barber!* 231. (Herb. T. C. D.)

Descr.—*Root* ligneous, simple, with few fibres, annual? *Leaves*, many at the crown, rosulate, obovate-oblong, tapering much at base, more or less crenate, rarely quite entire, obtuse, thickish, not conspicuously veiny, glabrous or minutely pulverulent, 2–2½ inches long, 4–6 lines wide. *Stem* scapelike, nude or with 1–2 small empty bracts, ending in a raceme, minutely puberulous. *Raceme* many-flowered, at first subcapitate, lengthening as the flowers open and the fruits ripen. *Bracts* subulate, eq. the pedicel. *Calyx*-lobes linear-lanceolate, pulverulent. *Corolla* "pale buff," twice as long as the calyx, pulverulent, the lobes oblong or obovate. Anteal *stamens* in the throat, very short, with abortive, transverse anthers! *Capsule* longer than the calyx.

A pretty little plant, with the foliage of a daisy, and flowers not unlike those of a *Verbena*. Whilst agreeing in every other character with its congeners, it differs in the stamens; the two upper of which I have constantly found to be, as represented in our plate, *abortive*. By this last character, but by no other, it agrees with *Nycterinia*.

Fig. 1, a plant; the *natural* size. Fig. 2, a flower; 3, part of the tube of the corolla laid open to show the stamens; 4, ovary and style; 5, cross section of ovary; capsule and persistent calyx; all *magnified*.

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198. VOGELIA AFRICANA, Lam. (*Plumbagineæ.*)

V. Africana: caulibus striatis flexuosis glaucescentibus patulè ramosis, foliis glaucis carnosis calcareo-pulverulentis cuneato-spathulatis in petiolem attenuatis apice obtusis emarginatisve integerrimis, floribus in spicas densas cylindricas terminales dispositis tandem reflexis, sepalis ovatis basi emarginatis apice cuspidatis transverse valde bullato-undulatis, corollæ laciniis cuneatis apice excisis angulis acutis medio mucronatis. *Lam. Illustr.* t. 149. *Boiss. in DC. Prodr. XII.* p. 696.

HAB.—N. W. districts and Namaqualand, *Levaillant, E. and Z.! Drege! A. Wyley!* (Herb. T. C. D.)

DESCR.—*Stems* slender, two or more feet high, striate, flexuous, glaucous and glabrous, much branched; the branches spreading. *Leaves* scattered, often few, very broadly cuneate, either round-topped, emarginate or obcordate, tapering at base into a short petiole, the lower about $\frac{1}{2}$–$\frac{3}{4}$ inch long, the upper smaller and narrower, all glaucous, and more or less coated with calcareous granules. *Spikes* very dense, terminal, the flowers spreading, and at length deflexed, on very short pedicels. *Bracts* subulate, recurved, longer than the pedicel. *Calyx*-lobes ovate, suddenly acuminate, strongly cross-wrinkled and ridged. *Corolla*-lobes cuneate, with sharp lateral angles, and an arcuate apex, mucronate in the centre.

An old and well-known plant, but which has not been figured in the present century, and which recommends itself to notice by its elegance; particularly by the ridges on the lobes of the 5-angle-winged calyx, and the curious form of the corolla-lobes. It appears to be not uncommon in the arid regions of Little Namaqualand. A second species of Vogelia is found in North Africa, and a third in India. There have been at least three VOGELS, distinguished by their explorations in Africa, and all well worthy of grateful commemoration.

FIG. 1, branch in flower; the *natural* size. Fig. 2, one of the calyx lobes; 3, the corolla; 4, segment of the corolla, and 5, a stamen *opposing* it; 6, ovary, style, and stigmas; 7, one of the stigmas; 8, an ovule, pendulous from its cord; all *magnified*.

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199. OSYRIDOCARPUS NATALENSIS, A. DC. (*Santalaceæ.*)

O. Natalensis; foliis ovato-lanceolatis acutis, floribus 1–3 brevissime pedicellatis, gibbis callosis 5 externe supra basin perigonii. *A. DC.* in *DC. Prodr.*, vol. xiv. p. 635 *Thesium macrocarpum, E. Mey! in herb. Drege.*

HAB.—Eastern Frontier, Caffraria and Natal, near Kachu, *Drege!* Beaufort and Winterberg, *Mrs. F. W. Barber!* K. Williamstown, *Rev. J. Brownlee!* Kreili's Country, *H. Bowker!* 270. Berea, near D'Urban, Natal, *M. J. M'Ken! Dr. Sutherland! T. Cooper*, 30, 1188. Featherstone's Kloof, near Grahamstown, *P. Mac Owan*, 253. (Herb. T. C. D.)

DESCR.—A glabrous, slender suffrutex. *Stem* several feet long, scrambling over, or half-climbing through bushes and larger shrubs, the branches pendulous, furrow-striate, curved. *Leaves* varying from lanceolate to ovate-lanceolate, $\frac{1}{2}$–1 inch long, 2–6 lines wide, acute, flat, 3-nerved, veinless. *Pedicels* axillary, 1–2 lines long, 1-flowered or sometimes 3-flowered. *Perianth* slender obpyramidal, 5-angled, with 5 small outside prominences at the summit of the ovary, beyond which the tube is prolonged at least twice as far; limb 5-parted, ovate, acute, bearded in the middle. *Stamens* in the throat of the tube. *Style* as long as the tube. *Ovules* 4, pendulous from a coiled, filiform placenta.

Drupe 4–5 lines diameter, in my specimens crowned with the *persisten* tube of the perianth: *seeds* spherical, *embryo* minute, in the base of the albumen.

I follow A. De Candolle in separating this plant generically from *Thesium*, from which it chiefly differs in its succulent fruit. I do not, however, find the tube of the perianth *deciduous*, as stated by De Candolle, and in my numerous specimens the flowers are more commonly *solitary* than *ternate*. The 5 callosities at the base of the perianth tube are not clearly shown in the figure, and the two lateral nerves of the leaves have been omitted.

Fig. 1, a flowering branch; the *natural* size. Fig. 2, perianth; 3, the same laid open, and the inferior ovary vertically cut; 4, cordlike placenta, and its 4 ovules; 5, fruit, ***crowned with the perianth;*** 6, section of seed; 7, embryo; all *magnified.*

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200. CYCLOSTEMON NATALENSE, Harv. (*Euphorbiaceæ.*)

C. Natalense; ramulis petiolisque minutissime puberulis, foliis breve petiolatis utrinque glaberrimis supra nitentibus oblongis v. ellipticis subacutis basi obtusis argute serratis.

Hab.—Near D'Urban, Natal, *J. Sanderson !* 105; *Gerr. & M'Ken !* 724 (the male plant), 862 (female). (Herb. T. C. D.)

Descr.—A dicecious shrub, or small tree, glabrous, except on the young twigs and petioles, which are minutely pubescent. *Leaves* alternate, $2\frac{1}{2}$ to 5–6 inches long, $1\frac{1}{2}$–$2\frac{1}{2}$ inches wide, glossy above, veiny beneath, varying from elliptical to oblong, obtuse at base, more or less acute at apex, sharply serrate. *Flowers* of both sexes fascicled, springing either from the larger branches or the trunk. *Male* flowers on slender pedicels, many in the tuft; *perianth* 4–5 parted, its segments ovate, very convex, unequal. *Female* flowers subsessile, few together; *perianth* of 5 unequal, very convex pieces; no stamens; *ovary* depressed, densely velvety, sitting in a fleshy disc, thick-walled, crowned by 3 divergent styles, with capitate stigmas, 6-celled; ovules solitary. Immature fruit, apparently *fleshy*, velvety like the ovary, subtended by the persistent perianth.

Blume founded his genus *Cyclostemon* on certain Javanese trees, to which Thwaites has since added a Cingalese species. I have now the pleasure to figure one from South Africa, agreeing in general habit and characters, but in which I find (perhaps erroneously) only a single ovule in each cell of the ovary; in the other species there are *two*. Mr. Sanderson informs me that the yellow flowers are very fetid and offensive; they spring from knots on the older branches and the stem!

Fig. 1, upper, and 2, under, side of a leaf; 3, tuft of male flowers; the *natural* size. Fig. 4, lobe of ♂ perianth; 5, stamen; 6, ♀ flower; all *magnified* Fig. 7, immature fruit; and 8, cross section of the same; the *natural* size.

ALPHABETICAL INDEX.

[Synonymes in Italics.]

Plate.

Adenium
Namaquanum, *Wyl.*, ... 117
Agathosma
Owanii, *H. and S.*, ... 165
Amphithalea
Williamsoni, *H.*, ... 184
Angræcum
arcuatum, *Lindl.*, ... 107
bicaudatum, *Lindl.*, ... 108
Capense, Lindl., ... 175
Antidesma
Natalensis, H., ... 167
venosum, *E. M.*, ... 167
Aster
petiolatus, *H.*, ... 154
Atherstonea
decussata, Pappe, ... 164
Bœobotrys
rufescens, *E. M.*, ... 123
Bergia
anagalloides, *E. M.*, ... 133
Boscia
angustifolia, *H.*, ... 134
Bouchea
latifolia, *H.*, ... 190
Brachystelma
Gerrardi, *H.*, ... 196
Brownleea
cœrulea, *H.*, ... 103
macroceras, Sd., ... 103
recurvata, *Sd.*, ... 104
Bryomorphe
Zeyheri, *H.*, ... 151
Bunburya
Capensis, *Msn.*, ... 132
Cassinopsis
tinifolia, *H.*, ... 168
Celastrus
oleoides, Hochst., ... 127
Choristylis
rhamnoides, *H.*, ... 123
Chrysanthemum
osmitoides, *H.*, ... 152
Cleome
aphylla, Th., ... 135
diandra, Bch., ... 136
juncea, Sparm., ... 135

Plate.

Curtisia
faginea, *Ait.*, ... 124
Cuscuta
cassythoides, *Nees*, ... 119
Cyclostemon
Natalense, *H.*, ... 200
Cynoctonum
molle, E. M., ... 113
Cyphia
corylifolia, *H.*, ... 161
elata, *H.*, ... 160
persicifolia, *Presl.*, ... 159
Cyrtanthus
breviflorus, *H.*, ... 139
Decaceras
Huttoni, *H.*, ... 114
Dianthera
Burchelliana, *Kl.*, ... 136
Disperis
cardiophora, *H.*, ... 106
Cooperi *H.*, ... 172
Fanninii, *H.*, ... 171
paludosa, *H.*, ... 148
Dombeya
Burgessiæ, *Gerr.*, ... 137, 138
Elæodendron
laurifolium, *H.*, ... 185
velutinum, *H.*, ... 186
Embelia
Kraussii, *H.*, ... 127
Epidendrum
Capense, L., ... 175
Epiphora
pubescens, Lindl., ... 178
Eriosphæra
Oculus Cati, *Less*, ... 149
Euryops
linearis, *H.*, ... 153
Gnaphalium
Oculus, Th., ... 149
Oculus Cati, *L.*, ... 149
Gomphocarpus
eminens, *H.*, ... 195
Gerrardi, *H.*, ... 193
M'Kenii, *H.*, ... 194
scaber, *H.*, ... 192

	Plate.
Habenaria	
Saundersiæ, *H.*,	147
Hallackia	
fimbriata, *H.*,	102
Harpephyllum	
Caffrum, *Bh.*,	125
Helichrysum	
aretioides, Turcz.,	151
Heliophila	
scandens, *H.*,	166
Heteropyxis	
Natalensis, *H.*,	128
Huttonæa	
pulchra, *H.*,	101
Hydnora	
triceps, *E. M.*,	187, 188
Klenzea	
lycopodioides, Sch. B.,	151
Lagenaria	
sagittata, *H.*,	183
Lasiopogon	
micropoides, *DC.*,	150
molluginoides, DC.,	150
Limodorum	
longicornu, Sw.,	175
Liparis	
Bowkeri, *Harv.*,	109
Litogyne	
glabra, *H.*,	155
Lobelia	
cyphioides, *H.*,	162
Lophostephus	
mollis, *H.*,	113
Maba	
Natalensis, *H.*,	110
Macromerum	
junceum, Burch.,	135
Mæsa	
alnifolia, *Harv.*,	129
palustris, Hochst.,	123
Manulea	
bellidifolia, *Bth.*,	197
Martynia	
Capensis, Glox.,	118
longiflora, Meerb.,	118
Modecca	
hastata, *H.*,	167
Montinia	
acris, *L. f.*,	122
caryophyllacea, Th.,	122
frutescens, Gært.,	122
Mystacidium	
filicorne, *Lindl.*,	175
gracile, *H.*,	174
pusillum, *H.*,	173
Natalanthe	
floribunda, Sd.,	132
Oncoba	
Kraussiana, *Pl.*,	141

	Plate.
Oncoba	
monacantha, St.,	142
spinosa, *Forsk.*,	142
Osyridocarpus	
Natalensis, *A. DC.*,	199
Pavetta	
Bowkeri, *Harv.*,	131
Pelargonium	
Bowkeri, *Harv.*,	121
Periglossum	
M'Kenii, *Harv.*,	111
Petalidium	
linifolium, *T. A.*,	143
Polanisia	
dianthera, DC.,	136
Polystachya	
Capensis, *Sd.*,	179
Gerrardi, *H.*,	176
Lindleyana, *H.*,	178
Sandersoni, *H.*,	177
Printzia	
Huttoni, *Harv.*,	158
Quisqualis	
parviflora, *Gerr.*,	130
Rogeria	
longiflora, *Gay*,	118
Ruttya	
ovata, *Harv.*,	144
Sarcocyphula	
Gerrardi, *H.*,	191
Schepperia	
juncea, *DC.*,	139
aphylla, *E.* and *Z.*,	135
Sclerochiton	
Harveyanus, *Nees.*,	145
Schrebera	
Saundersiæ, *H.*,	163
Sisyndite	
spartea, *E. Mey.*,	120
Sisyranthus	
imberbis, *H.*,	116
virgatus, *E. M.*,	115
Sopubia	
cana, *H.*,	146
Spondias	
falcata, Msn.,	125
Strychnos	
Atherstonei, *H.*,	164
Baculum, H.,	164
Suffrenia	
Capensis, *Harv.*,	189
Tulbaghia	
acutiloba, *H.*,	180
Turnera	
Capensis, *H.*,	140
Tryphia	
orthoceras, *H.*,	105A
secunda, *Lindl.*,	105B

	Plate.
Uropetalum	
ciliare, *E. and Z.*,	170
Vernonia	
Gerrardi, *H.*,	157
stahelinoides, *H.*,	156
Vogelia	
Africana, *Lam.*,	198
Ximenia	
Caffra, *Sond.*,	126
Xylosma	
monospora, *H.*,	181
Xylotheca	
Kraussiana, Hochst.,	141
Xysmalobium	
pedunculatum, *H.*,	112
Zehneria	
Wyleyana, *Sd.*,	182

SYSTEMATIC INDEX.

	Plate.
Cruciferæ	
Heliophila scandens, *H.*,	166
Capparideæ	
Dianthera Burchelliana, *Kl.*,	136
Schepperia juncea, *DC.*,	135
Boscia angustifolia, *H.*,	134
Bixaceæ	
Oncoba Kraussiana, *Pl.*,	141
Oncoba spinosa, *Forsk.*,	142
Xylosma ? monospora, *H.*,	181
Elatinaceæ	
Bergia anagalloides, *E. M.*,	133
Byttneriaceæ	
Dombeya Burgessiæ, *Gerr.*,	137, 138
Olacineæ	
Ximenia Caffra, *Sd.*,	126
Geraniaceæ	
Pelargonium Bowkeri, *H.*,	121
Zygophylleæ	
Sisyndite spartea, *E. M.*,	120
Rutaceæ	
Agathosma Owanii, *H. and S.*,	165
Aquifoliaceæ	
Cassinopsis tinifolia, *H.*,	168
Celastrineæ	
Elæodendron laurifolium, *H.*,	185
Elæodendron velutinum, *H.*,	186
Terebintaceæ	
Harpephyllum Caffrum, *Hochst.*,	125
Leguminosæ	
Amphithalea Williamsoni, *H.*,	184
Saxifragaceæ	
Choristylis rhamnoides, *H.*,	123
Cucurbitaceæ	
Zehneria Wyleyana, *Sd.*,	182
Lagenaria sagittata, *H.*,	183
Passifloreæ	
Modecca hastata, *H.*,	167
Turneraceæ	
Turnera Capensis, *H.*,	140
Onagrarieæ	
Montinia acris, *L.*,	122
Combretaceæ	
Quisqualis parviflora, *Gerr.*,	130
Lythrarieæ	
Suffrenia Capensis, *H.*,	189
Heteropyxis Natalensis, *H.*,	128
Corneæ	
Curtisia faginea, *Ait.*,	124
Rubiaceæ	
Pavetta Bowkeri, *H.*,	131
Bunburya Capensis, *Msn.*,	132
Compositæ	
Litogyne glabra, *H.*,	155
Vernonia stahelinoides, *H.*,	156
Vernonia Gerrardi, *H.*,	157
Aster petiolatus, *H.*,	154
Chrysanthemum osmitoides, *H.*,	152
Bryomorphe Zeyheri, *H.*,	151
Eriosphæra Oculus Cati, *Less.*,	145
Lasiopogon micropoides, *DC.*,	150
Euryops linearis *H.*	153
Printzia Huttoni, *H.*,	158
Campanulaceæ	
Lobelia cyphioides, *H.*,	162
Cyphia persicifolia, *Presl.*,	159

	Plate.
Campanulaceæ	
Cyphia elata, *H.*,	160
Cyphia corylifolia, *H.*,	161
Ebenaceæ	
Maba Natalensis, *H.*,	110
Myrsineæ	
Embelia Kraussii, *H.*,	127
Mæsa alnifolia, *H.*,	129
Jasminaceæ	
Schrebera Saundersiæ, *H.*,	163
Asclepiadeæ	
Sarcocyphula Gerrardi, *H.*,	191
Periglossum M'Kenii, *H.*,	111
Xysmalobium pedunculatum, *H.*,	112
Gomphocarpus scaber, *H.*,	192
Gomphocarpus Gerrardi, *H.*,	193
Gomphocarpus M'Kenii, *H.*,	194
Gomphocarpus eminens, *H.*,	195
Lophostephus mollis, *H.*,	113
Decaceras Huttoni, *H.*,	114
Sisyranthus virgatus, *E. M.*,	115
Sisyranthus imberbis, *H.*,	116
Brachystelma Gerrardi, *H.*,	196
Apocyneæ	
Adenium Namaquanum, *Wyl.*,	117
Loganiaceæ	
Strychnos Atherstonei, *H.*,	164
Pedalineæ	
Rogeria longiflora, *Gay*,	118
Acanthaceæ	
Petalidium linifolium, *T. A.*,	143
Ruttya ovata *H.*,	144
Sclerochiton Harveyanus, *Nees*,	145
Scrophularineæ	
Manulea bellidifolia, *Bth.*,	197
Sopubia cana, *H.*,	146
Verbenaceæ	
Bouchea latifolia, *H.*,	190
Convolvulaceæ	
Cuscuta cassythoides, *H.*,	119

	Plate.
Plumbagineæ	
Vogelia Africana, *Lam.*,	198
Rafflesiaceæ	
Hydnora triceps, *E.M.*,	187, 188
Santalaceæ	
Osyridocarpus Natalensis, *A. DC.*,	199
Euphorbiaceæ	
Cyclostemon Natalense, *H.*,	200
Antidesmeæ	
Antidesma venosum, *E.M.*,	169
Orchideæ	
Liparis Bowkeri, *H.*,	109
Polystachya Gerrardi, *H.*,	176
Polystachya Sandersoni, *H.*,	177
Polystachya Lindleyana, *H.*,	178
Polystachya Capensis, *H.*,	179
Angræcum arcuatum, *Ldl.*,	107
Angræcum bicaudatum, *Ldl.*,	108
Mystacidium pusillum, *H.*,	173
Mystacidium gracile, *H.*,	174
Mystacidium filicorne, *Ldl.*,	175
Habenaria Saundersiæ, *H.*,	147
Huttonæa pulchra, *H.*,	101
Hallackia fimbriata, *H.*,	102
Brownleea cœrulea, *H.*,	103
Brownleea recurvata, *Sd.*,	104
Tryphia orthoceras, *H.*,	105
Tryphia secunda, *Ldl.*,	105
Disperis cardiophora, *H.*,	106
Disperis paludosa, *H.*,	148
Disperis Fanninii, *H.*,	171
Disperis Cooperi, *H.*,	172
Amaryllideæ	
Cyrtanthus breviflorus, *H.*,	139
Liliaceæ	
Tulbaghia acutiloba, *H.*,	180
Uropetalum ciliare, *E. and Z.*,	170

END OF VOL. II.

W H H del et lith

W West imp

Huttonæa pulchra, *Harv.*

A H H del et lith

Hallackia fimbriata, *Harv*

W. West imp

Brewlea pervaryata *Sond.*

Rogers Cadogan Mus

Mrs Holland del. et lith.

W. West imp.

Lycium bicaudatum Lindl.

W. West, imp.

W H Hooker ad lith.

Liparis Bowkeri, *Harv.*

W H.H del et lith

W. West, imp.

Maba Natalensis, *Harv*

W. H. H. del et lith.

W. West, imp.

Panicum McKenii Harv.

A. Blackwell lith.

W. West imp.

Lysiostephus Burchellii Harv.

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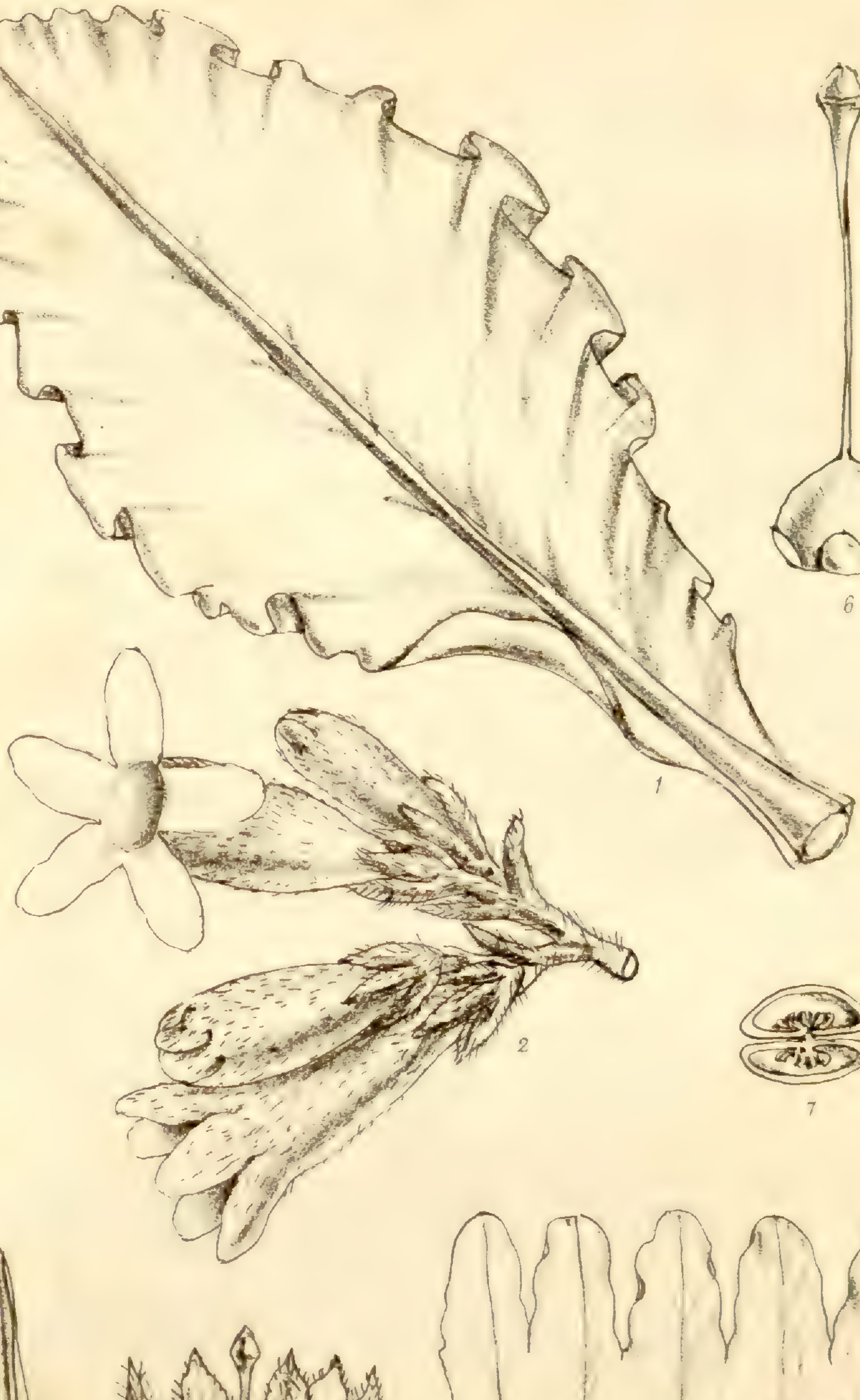
W.West, imp

W. H. H. [illegible]

Decaceras Huttoni, *Harv.*

Sarracenia variolaris, Mich.

Juncus anthus *Hw*



W West, imp

W. H. H. del. et lith.

Adenium Namaquanum.

Cusp. de cat. spinulosa, Nees

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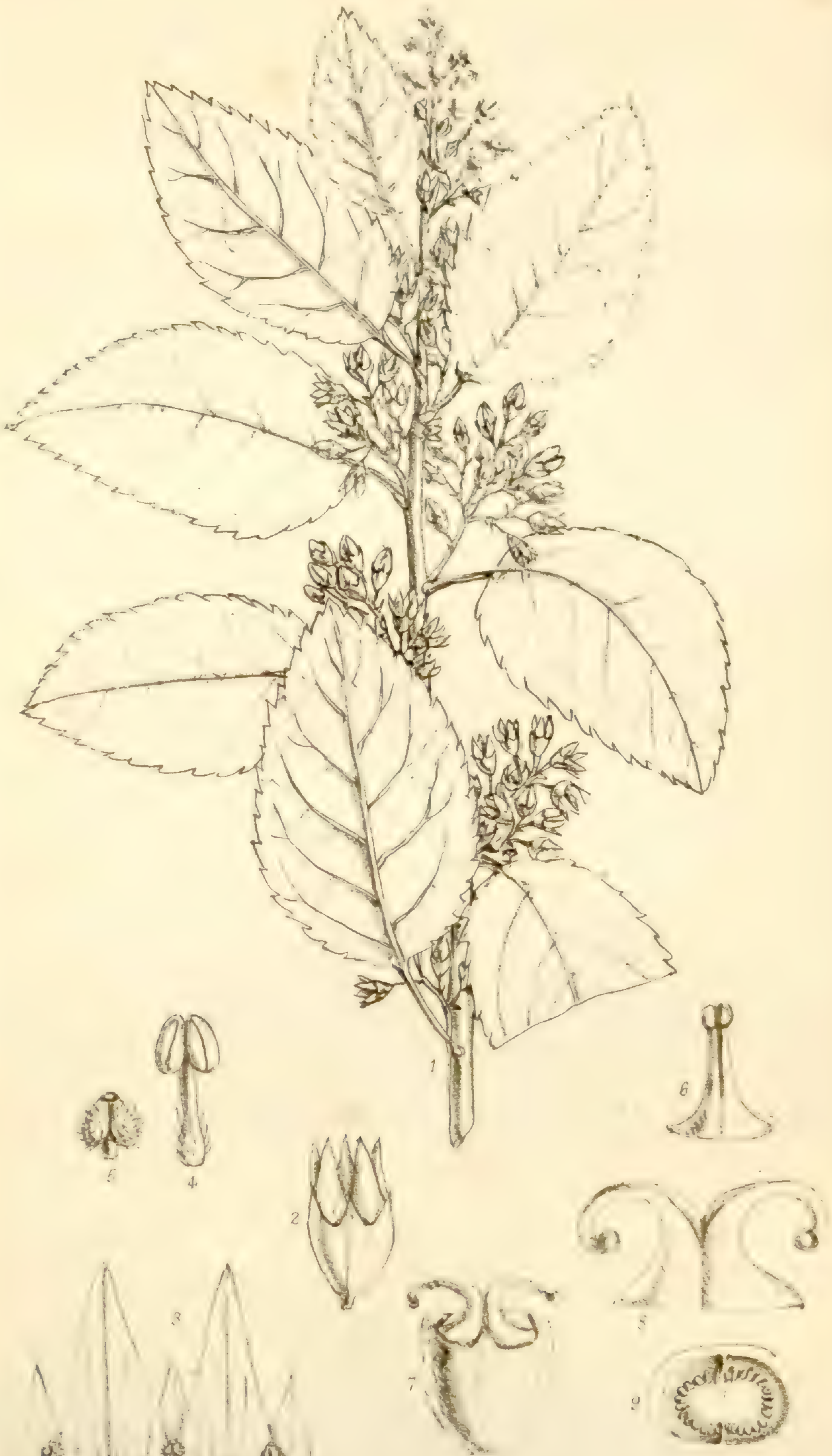
Pelargonium Bow[illegible]i, *Hort.*

Montinia acris, *Linn.f.*



Choristylis rhamnoides, *Harv.*

WHH del et lith

W West imp

Curtisia faginea, *Ait.*

Harpephyllum Caffrum, *Bernh.*

W West imp.

Ximenia Caffra, *Sond.*

...elia Kraussii *Harv.*

W Hunnewell lith.

W West, imp.

Mæsa almifolia, *Harv.*

Quisqualis parviflora, *Gerr.*

Fawcett Boulton del.

Bunburya Capensis, *Meisn*

W West imp.

W H H del et lith

Bergia anagalloides, *E. Mey*

W H.H. del et lith

W West, imp.

Schepperia juncea, *D.C.*

Dianthera Burchelliana Ac.

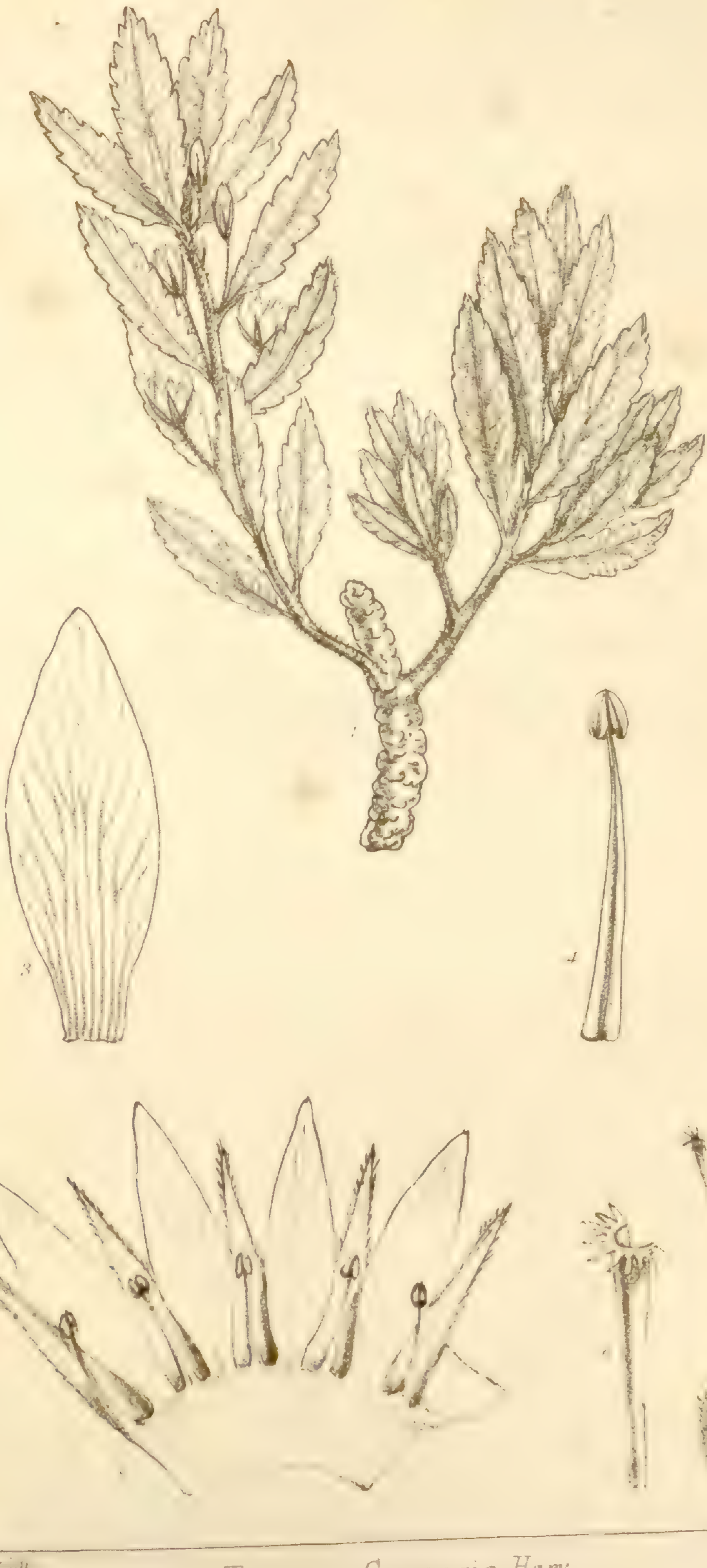
W H H. del. et lith.

W West, imp

Dombeya Burgessiæ, *Gerr*

W West, imp

Cyrtanthus breviflorus, *Harv.*



Turnera Capensis, *Harv.*

Oncoba Kraussiana *Pl*

Oncoba spinosa *Forsk.*

Rottlya ovata. *Hart.*

W West, imp

Senecio cana. Harv.

W. West, imp

Eriosphæra Oculus Cati, *Less.*

W West imp

Lasiopogon micropoides, *DC.*

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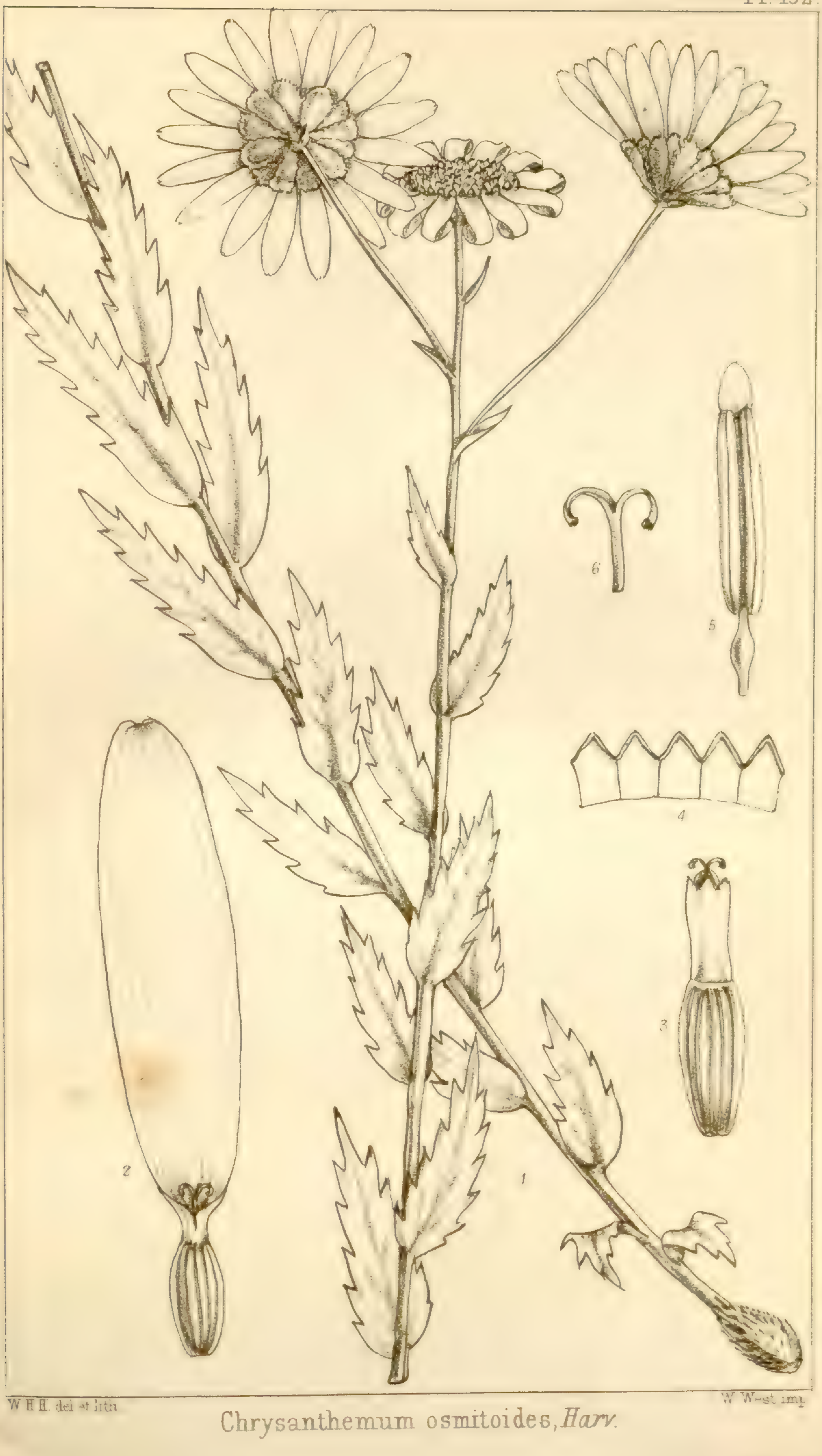
W West, imp

W. H H. del. et lith.

Bryomorphe Zeyheri, *Harv.*



W H H. del et lith

W W-st imp

Chrysanthemum osmitoides, *Harv.*

W. H. F. del. et lith.

W. West imp

Euryops linearis, *Harv.*

W.H.H. del. et lith.

W.West, imp

Aster petiolatus, *Harv*

W West imp

Litogyne glabra, *Harv.*

W.H.H. del et lth.

Vernonia stahelinoides, *Harv.*

W H. H. del et lith

W West imp

Vernonia Gerrardi *Harv.*

W.H.H. del et lith.

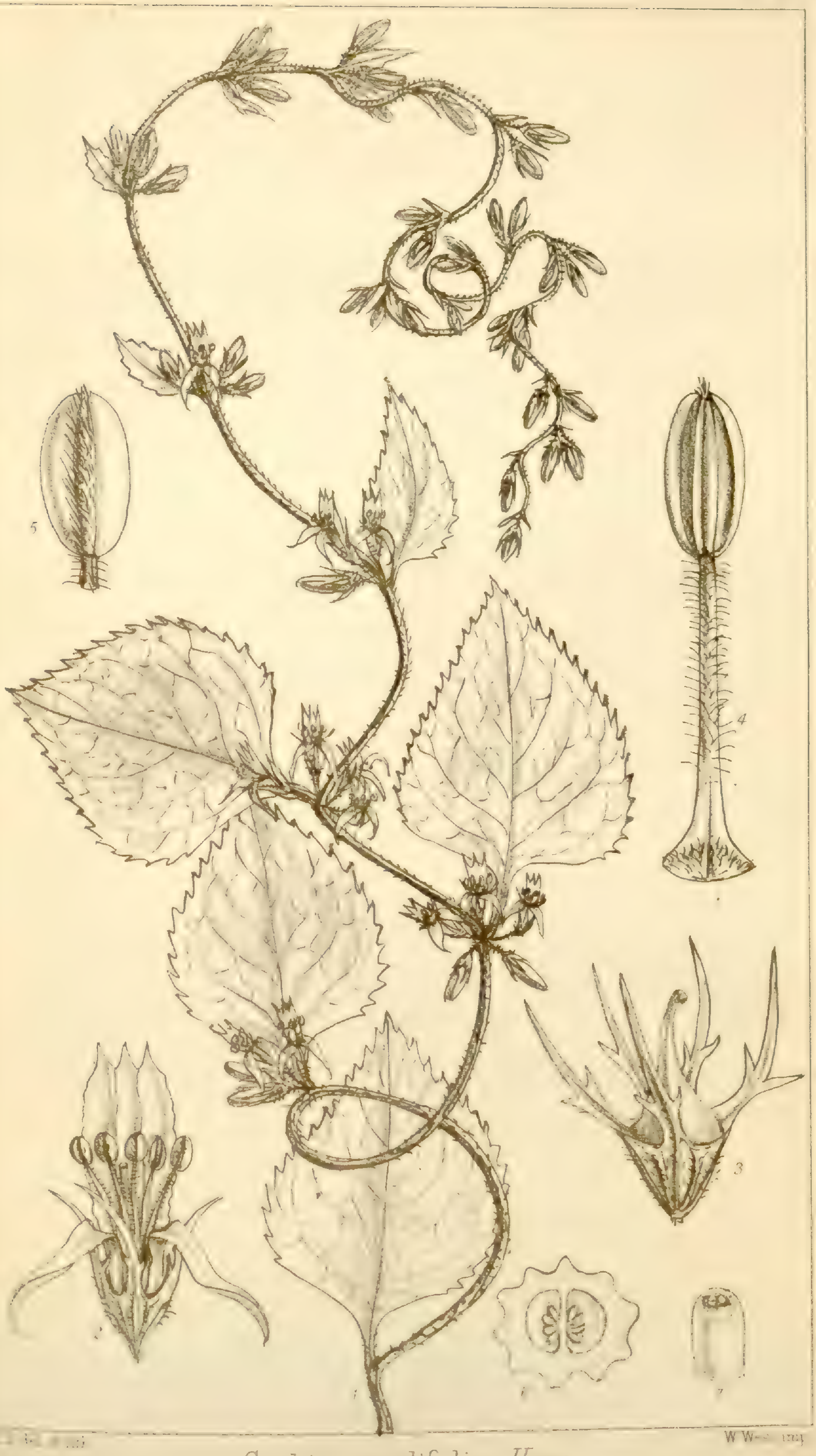
W. West, imp

Printzia Huttoni, *Harv.*

Cephus pygmæus Fab.

W West imp

Cyphea picta *Hort*



Cyphia corylifolia, *Harv.*

W.H. del. et lith.

W.West, imp.

Lobelia cyanea Gray.

W. H. H. del et lith.

W. West, imp

Schrebera Saundersiæ, *Harv.*

Strychnos Atherstonei *Harv*

W. West, imp

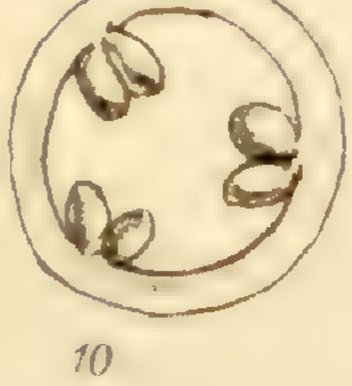
W H H. del et lith

Agathosma Owanii, *Harv. & Sond.*

W. H. H. del. et lith

W West, imp

Heliophila scandens, *Harv.*



WHH del et lith

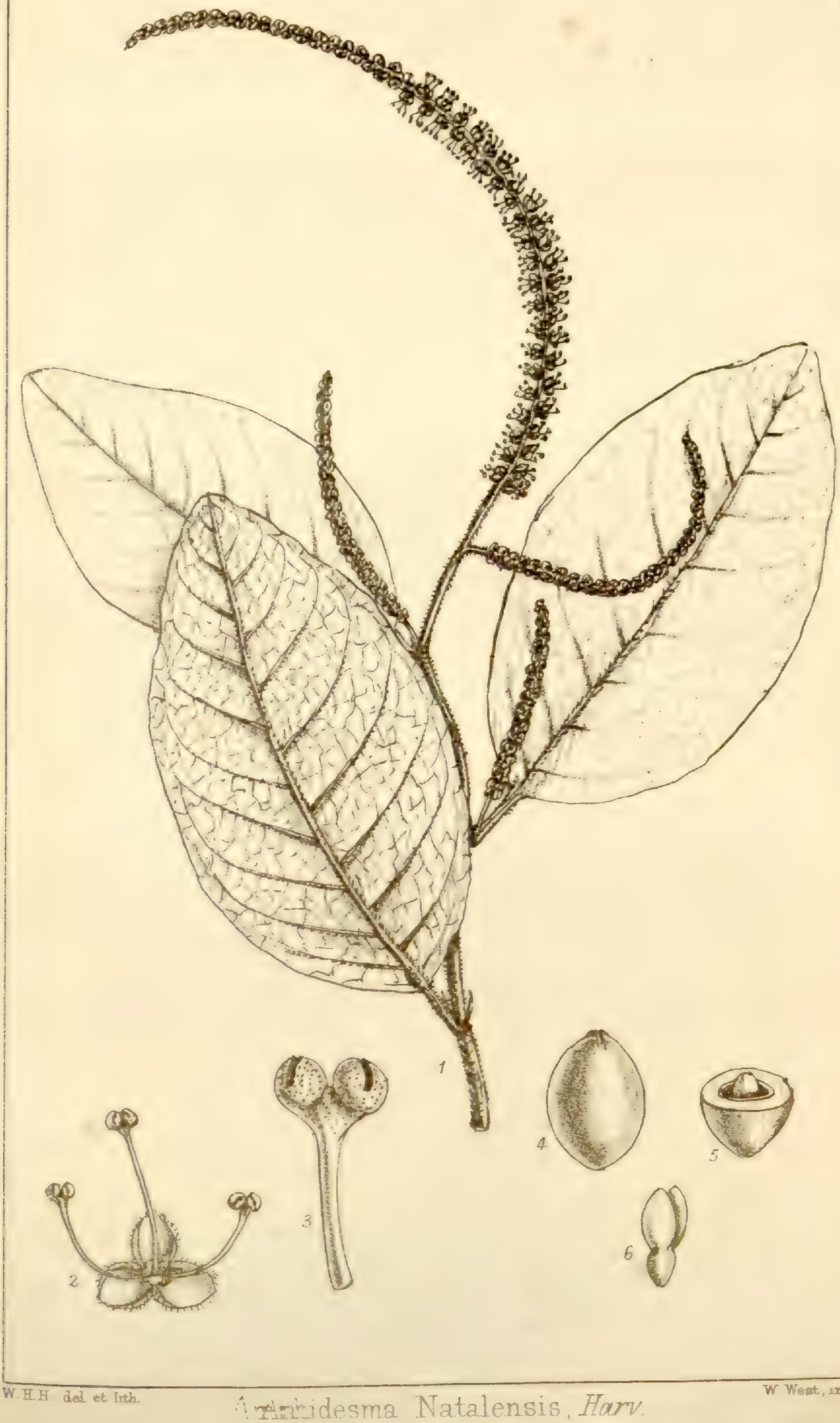
W. West, imp.

Modecca hastata, *Harv.*

W.H.H. del et lith.

W. West imp.

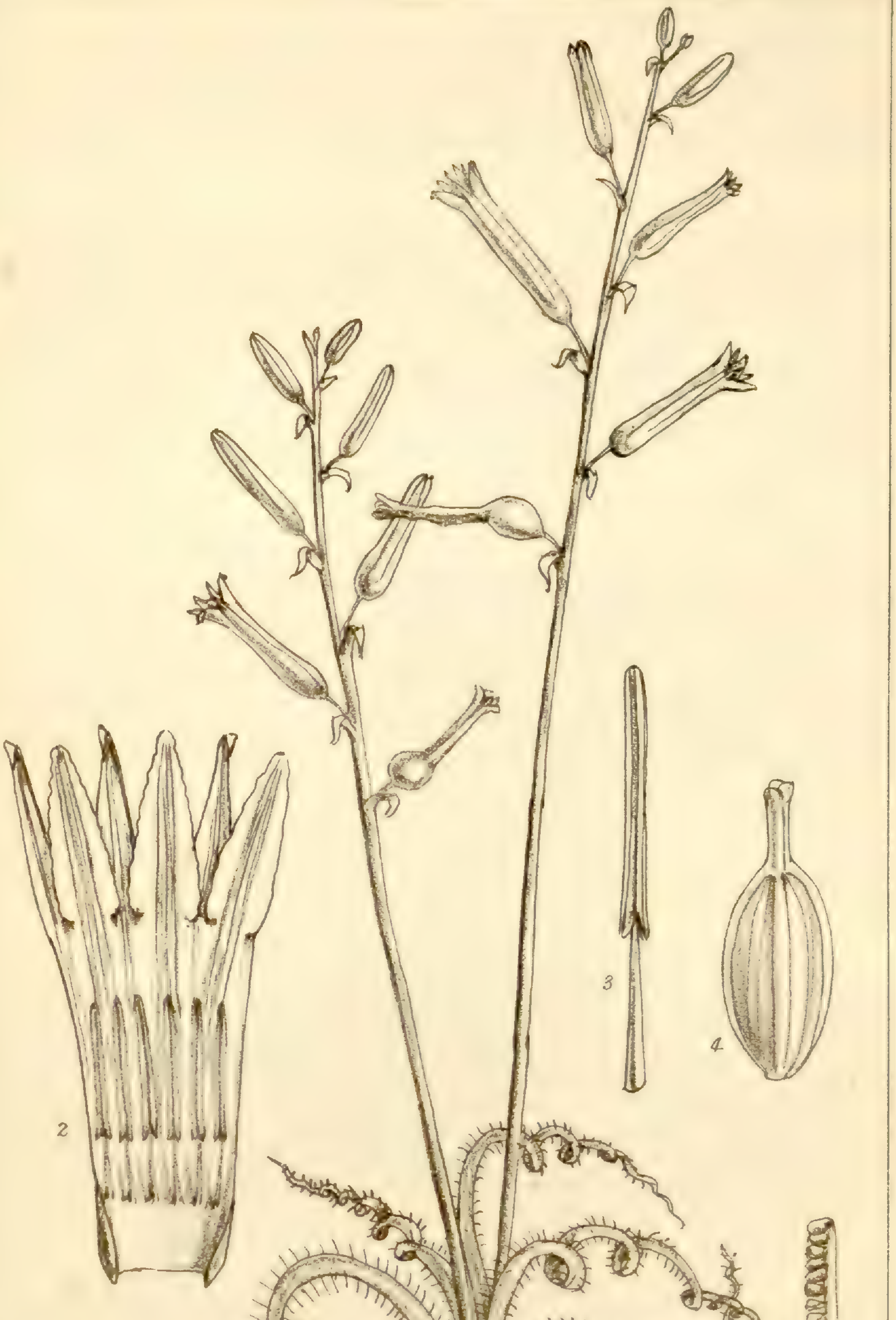
Cassinopsis tinifolia, *Harv.*



W.H.H. del et lith.

W West, imp.

Arthrodesma Natalensis, *Harv.*



W.H.H. del et lith.

W. West imp.

Uropetalum ciliare. *E & Z.*

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Dispers. Gerpent. Flor.

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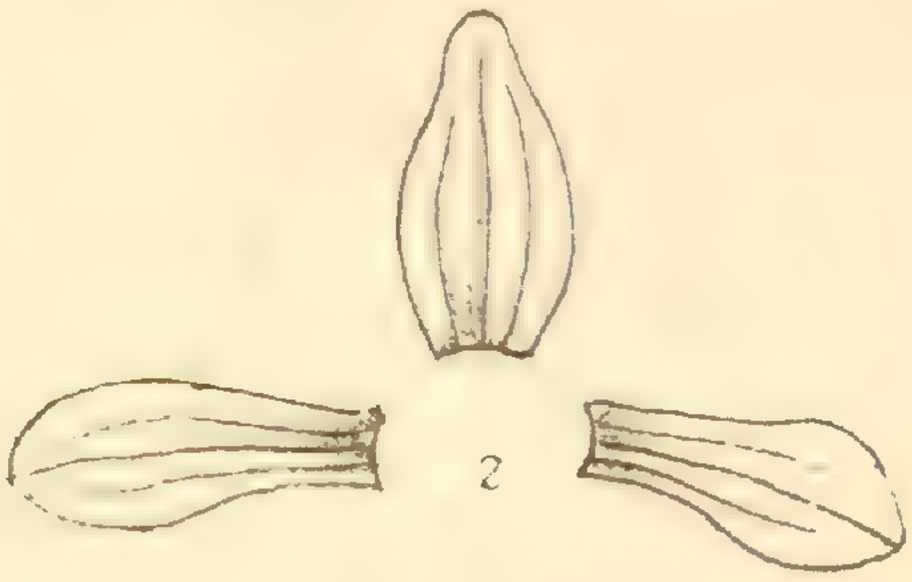

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W H H. del et lith

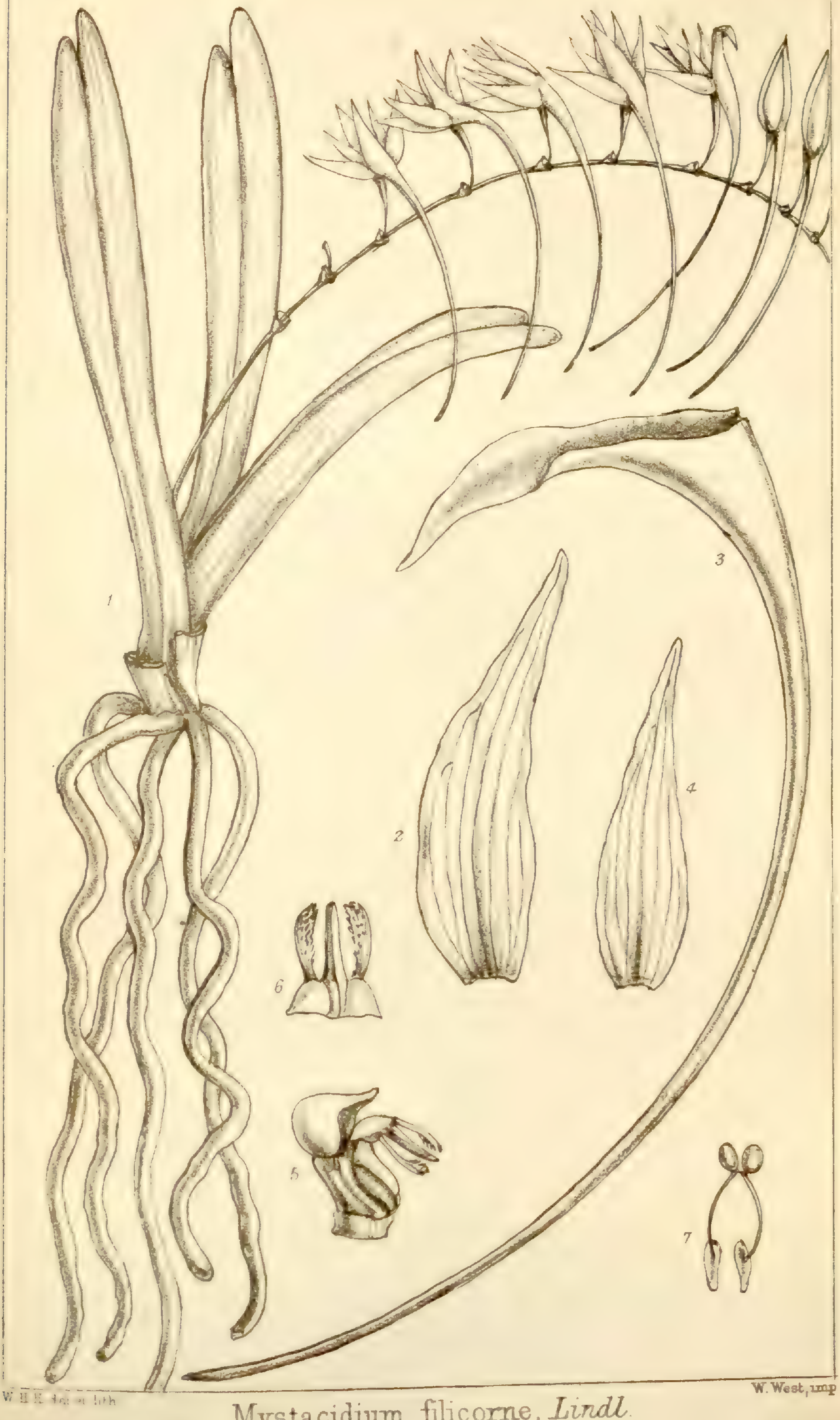
W West, imp

Mystacidium pusillum, *Harr.*

V. H H del et lith

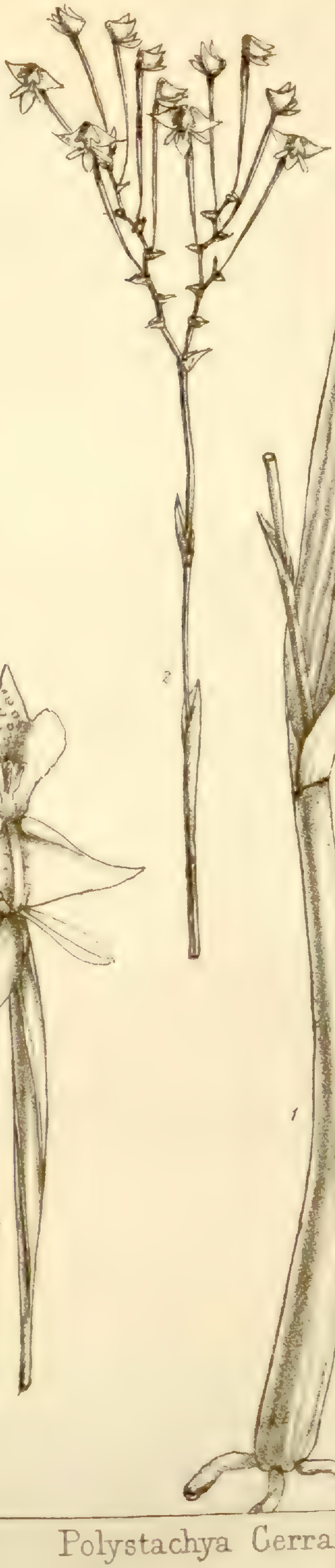
W West imp

Mystacidium gracile, *Harv.*



W. West, imp

Mystacidium filicorne, *Lindl.*



W H H del et lith

W West imp

Polystachya Cerrardi, *Harv.*

W H H del et lith

W West imp

Polystachya Sandersoni, *Harv.*

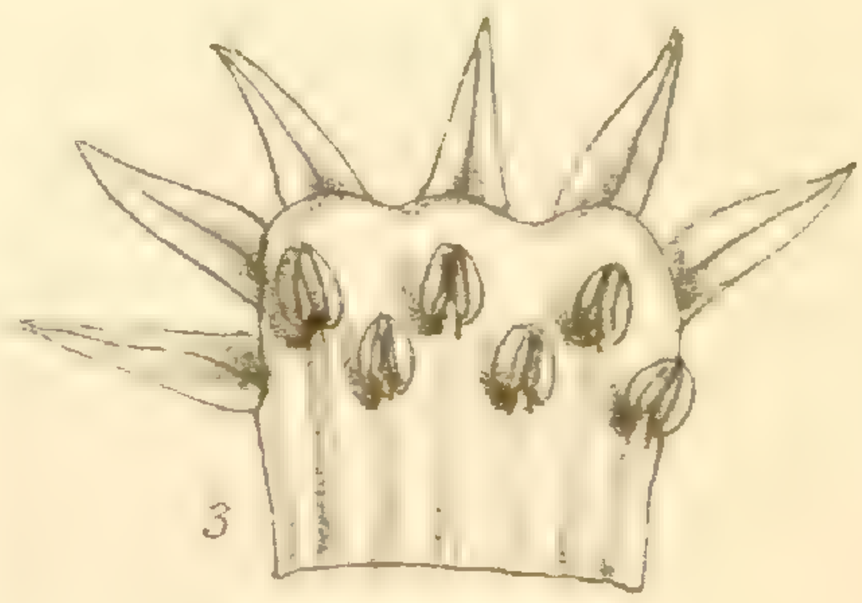
Mrs Hollams del et lith

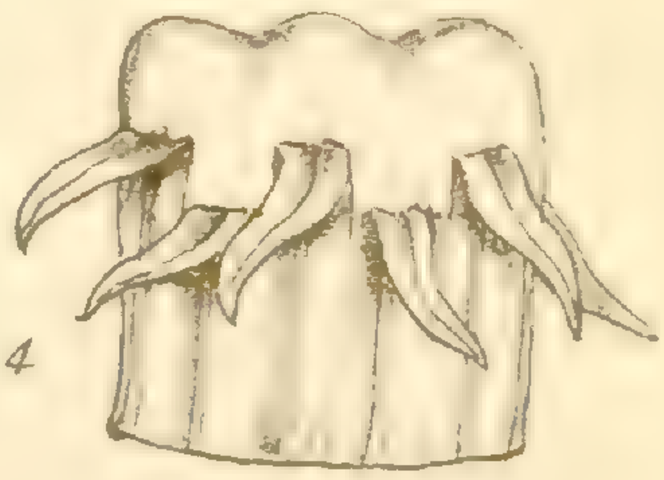
Polystachya Lindleyana, *Harv.*

W H F del et lith

W West imp

Polystachya Capensis *Sond*



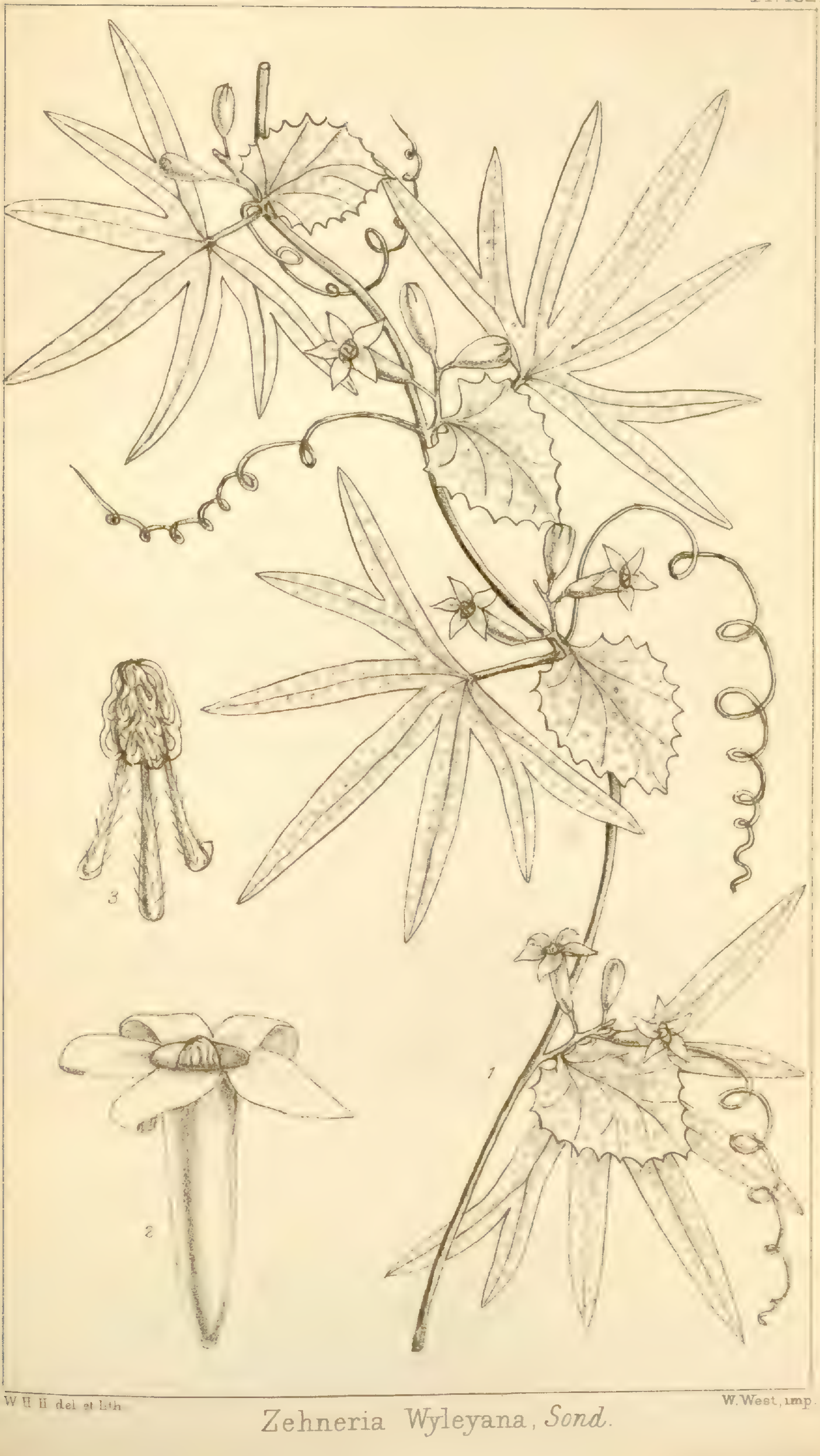


Tulbaghia acutiloba. *Harv*

W.H.H. del et lith.

W West, imp.

Xylosma monospora. *Harv.*



W H H del et Lith

W. West, imp.

Zehneria Wyleyana, *Sond.*

W West, imp.

Lagenaria sagittata *Harv.*

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W. H. H. del. et lith.

W West, imp.

Amphithalea Williamsoni, *Harv.*

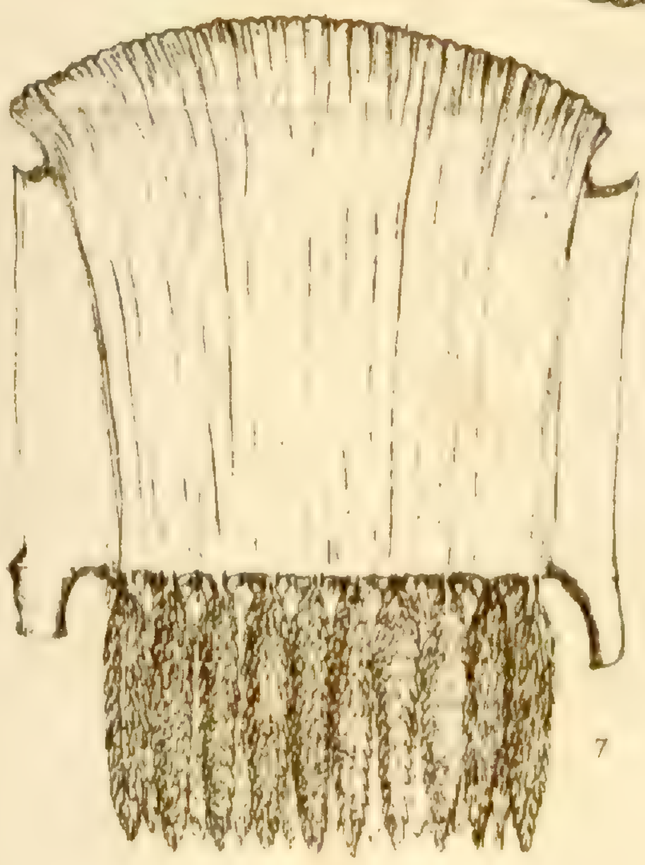
W.H.H. del et lith.

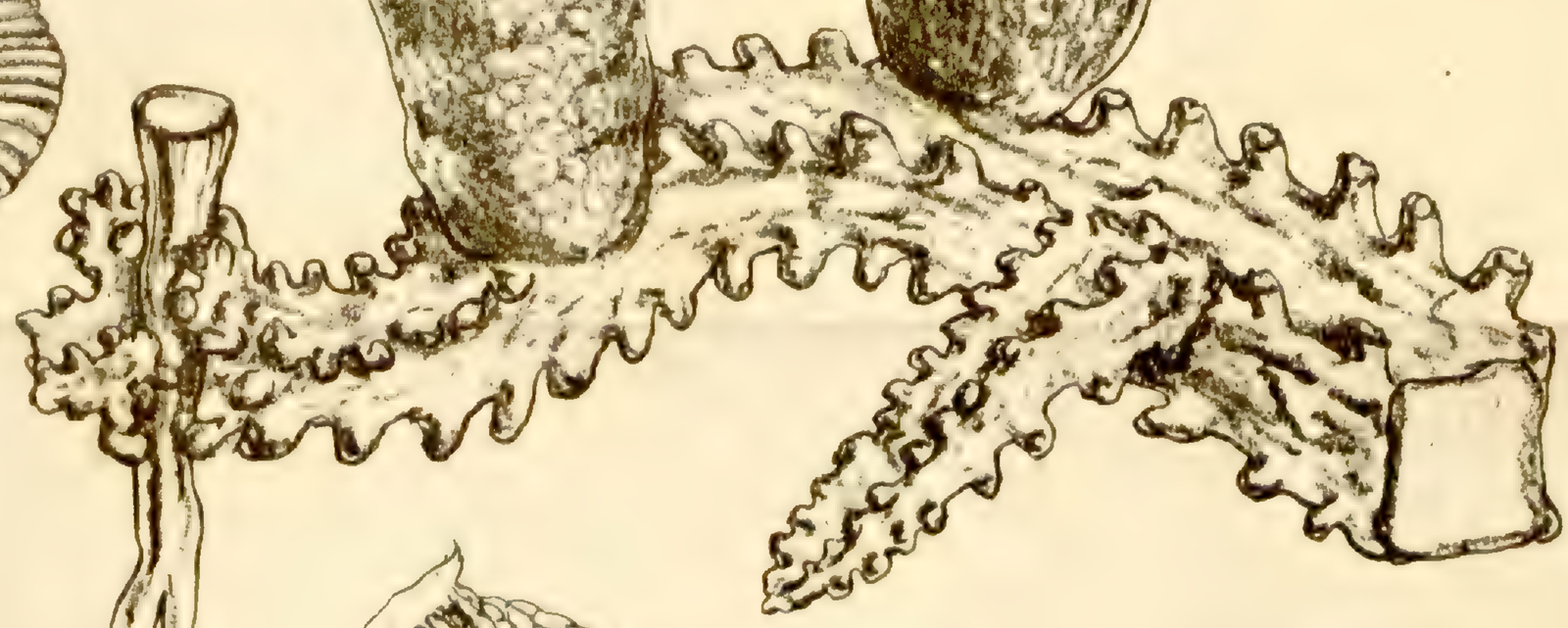
W. West, imp.

Elæodendron? laurifolium, *Harv*

W H H del et lith

Elæodendron velutinum, *Harv*

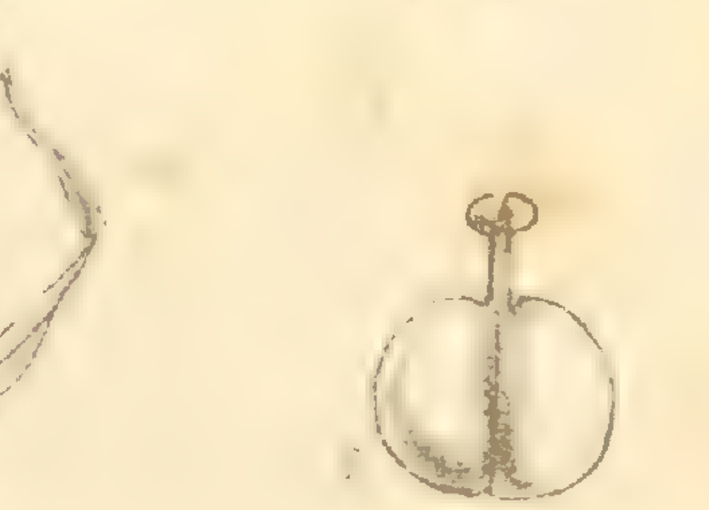




W.H.H. del. et lith.

Hydnora triceps *F. Mey.*

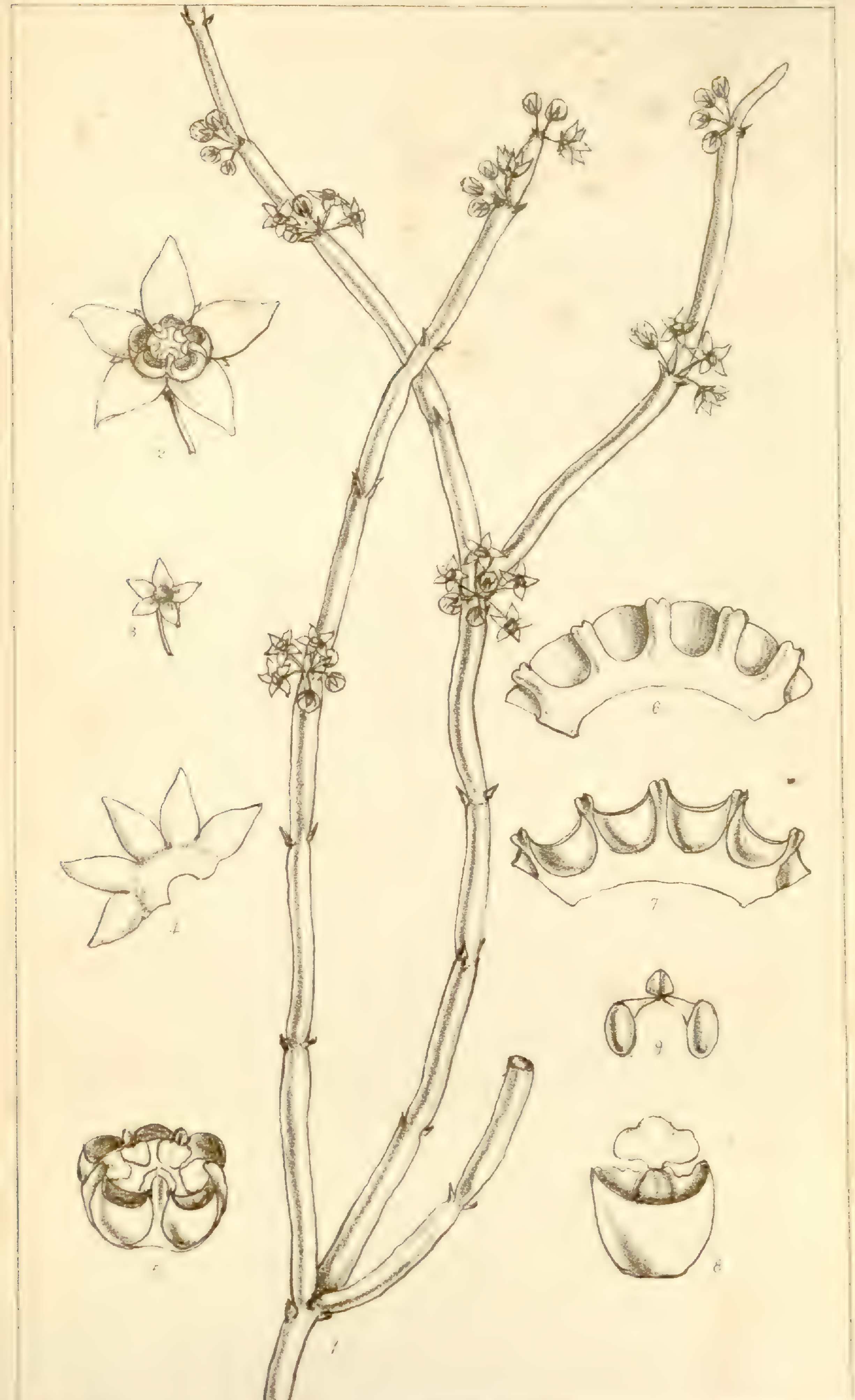
W. West imp.



W. West imp

WHH del et lith.

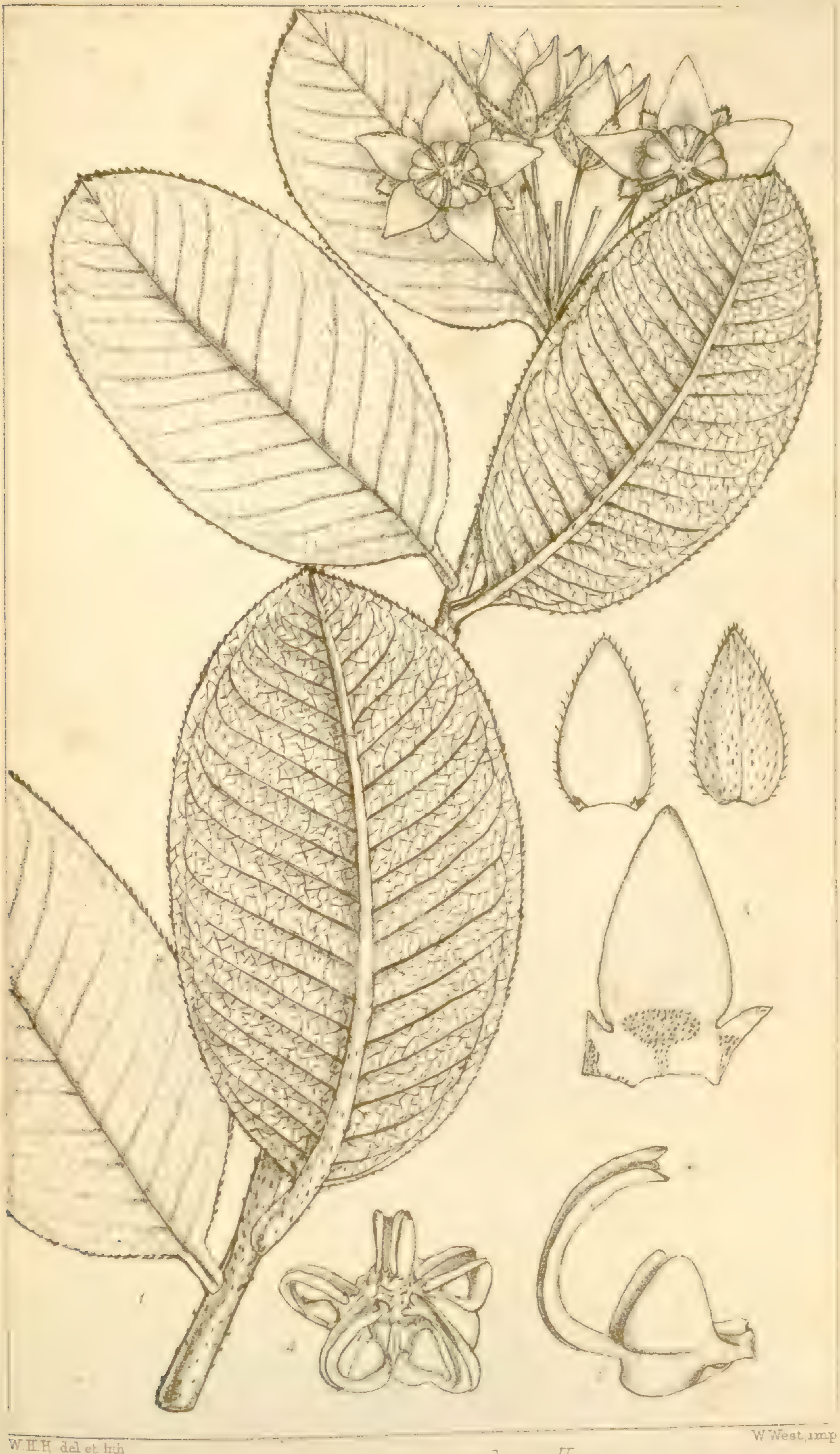
Bouchea latifolia, *Ear*



W E H del et lith

W West imp

Sarcocyphula Gerrardi, *Harv.*

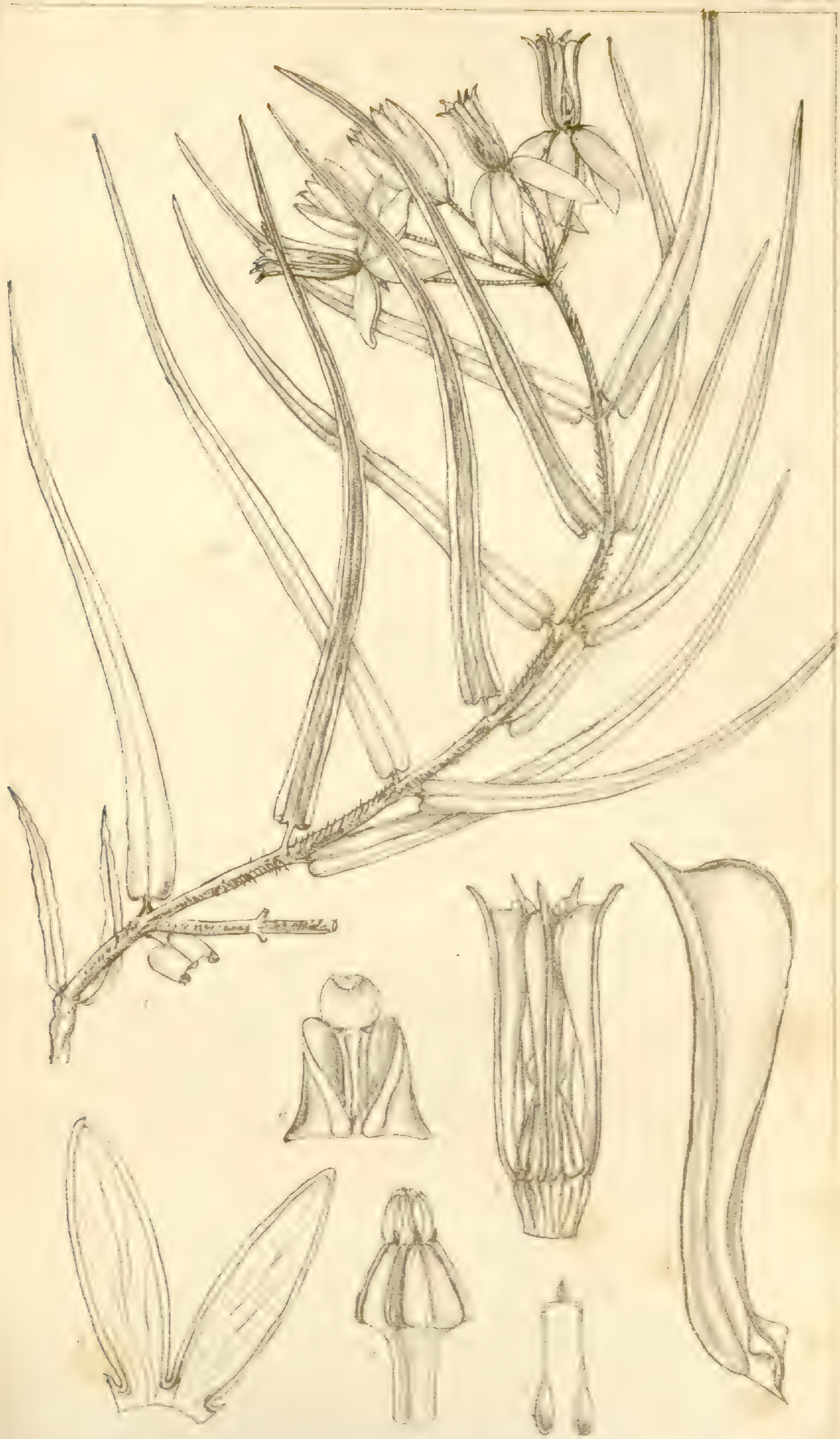


W.H.H del et lith

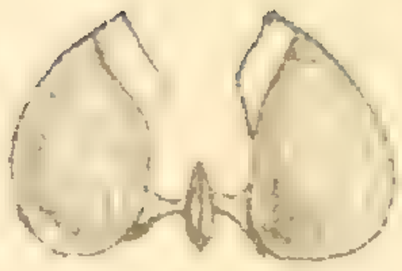
W West, imp

Gomphocarpus scaber, *Harv.*

Gomphocarpus Gerrardi, *Harv.*



Gomphocarpus eminens, *Harv.*



W H E del. et lith.

W. W. sc.

Brachystelma Gerrardi *Harv*

W H H del. et lith.

W. West imp.

Manulea bellidifolia, *Bth.*

W.H.H. del et lith.

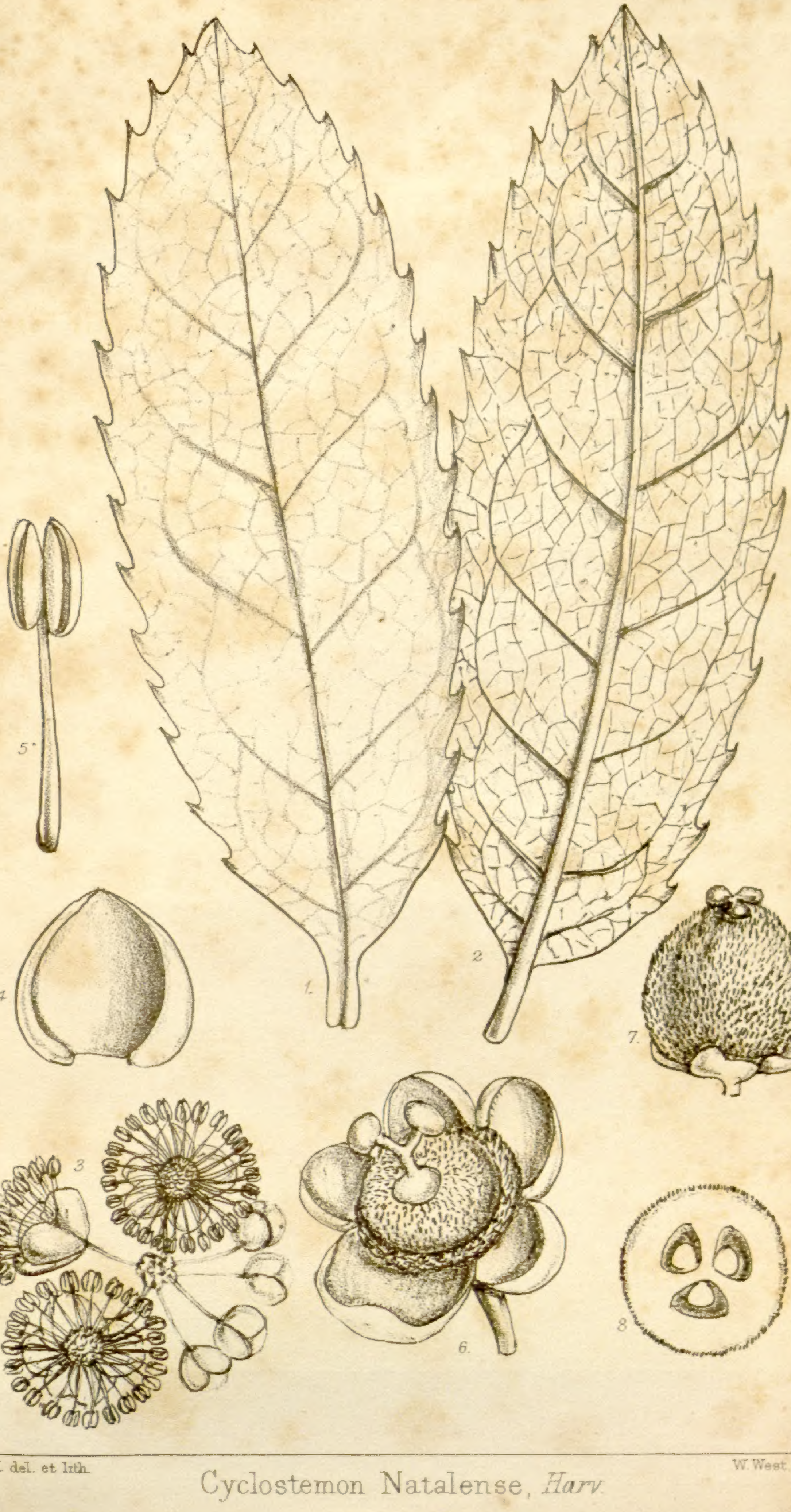
W. West, imp

Vogelia Africana, *Lam.*

W. H. H. del et lith.

W West, imp

Osyridocarpus Natalensis, *A.D C.*



W.H.H. del. et lith.

W. West. imp.

Cyclostemon Natalense, *Harv.*